DAILY METAL REPORTER
MONTHLY SUPPLEMENT

METALS

Published Since 1929

In This Issue

FORECAST ON LEAD USE BY U.S. BATTERY INDUSTRY
By C. HERBERT ALLEN, President
Ass'n of American Battery Manufacturers

ALUMINUM IN WORLD TRADE
By NATHANAEL V. DAVIS, President
Aluminium Limited

BRITISH METAL MARKETS
By L. H. TARRING
London, England

DOMESTIC METAL MARKET REVIEW

WASHINGTON REPORT

METAL STATISTICS

JULY
1960

Kennecott Copper Corporation
Kennecott Sales Corporation

Producers and Sellers of

Electrolytic Copper
Chino Fire Refined Copper (K.C.M.)
Braden Fire Refined Copper (★★★)
Molybdenite

Offices

161 East 42nd St., New York 17, N. Y.

PHELPS DODGE CORPORATION

PHELPS DODGE REFINING CORPORATION

300 PARK AVENUE, NEW YORK 22, N. Y.

COPPER

P★D—ELECTROLYTIC—LNS
PDM FIRE REFINED

COPPER SULPHATE — NICKEL SULPHATE
SELENIUM — TELLURIUM — PRECIOUS METALS

Buyers of

BULLION, ORES, CONCENTRATES, MATTE and BLISTER

Subscription
$5.00 a Year
50c a Copy

DAILY METAL REPORTER
MONTHLY SUPPLEMENT
METALS

Registered U. S. Patent Office
Published Monthly Since 1929

Charles H. Lipsett
Publisher
Dr. J. Zimmerman
Editor
M. Goldfischer
Associate Editor

Monthly Supplement of Daily Metal Reporter July 29, 1960

JULY, 1960

Vol. 31 — No. 1

TABLE OF CONTENTS

Washington Report 4

Lead Consumption by U. S. Battery Industry 7
By C. HERBERT ALLEN, President
Association of American Battery Manufacturers

Aluminum in International Trade 11
By NATHANAEL V. DAVIS, President
Aluminium Limited

British Metal Markets 13
By L. H. TARRING
London, England

Domestic Metal Market Review 15

U. S. Metal Import Duties 17

Metal Statistics 19

METALS — 425 West 25th Street, New York 1, N. Y.
Published by the National Business Press, Inc.
Phone: WAtkins 4-0660
Cable Address: ATPUBCO, New York
Branches: Washington, Philadelphia, Chicago, Boston
London Office: 81 Highview Ave., Edgware, Middlesex, England
Cable Address: ATPUBCO, London
Affiliated Publications: Daily Metal Reporter, Daily Mill Stock Reporter, Waste Trade Journal, Waste Trade Directory, Standard Metal Directory, Mines Register, World's Waste Trade Directory, Sales (Weekly).

TWO LINE *Editorials*

Wonder why there's always so much argument about the platforms adopted at political conventions, when nobody ever pays any attention to them after the election?

* * *

Announcement is made of a new kind of paper "that stretches in all directions". Why wouldn't it be a good idea to use it in printing our currency, which has been so steadily shrinking?

* * *

One editor says that our next President "should pledge himself not to spy on other nations". Or, anyway, should pledge himself not to get caught at it.

* * *

An old-timer is a man who can remember when the national chairman of a political party was supposed to be neutral.

* * *

A California inventor announces a fishing line strong enough to land a 500-lb. fish. Now the fisherman's only problem is to get such a fish on the other end of such a line.

* * *

The Bureau of Public Roads states that there are 70,416,000 automobiles in use in the United States to-day. And frequently it seems that all but about 6,000 of them are trying to use the same road you are using Sunday afternoon.

Washington Report

July 13, 1960

THE CURTAIN of a Congressional recess came down just as the fight for lead and zinc legislation reached a climax and the industry will have to wait until next month to see the final act. Holding the center stage is a bill to provide subsidy payments to lead and zinc producers and, waiting in the wings, is a measure to boost tariffs on both metals.

One of the final bills considered by the Senate before it recessed for the Presidential nominating conventions was a House-passed measure (H.R. 8860) offered by Rep. Ed. Edmondson (Dem., Okla.). The measure, which passed the House by the narrow vote of 197 to 191, authorizes stabilization payments to make up the difference between the market price and a price of 17 cents per pound for lead and 14½ cents per pound for zinc. It applies only to small domestic producers, those producing or selling up to 2,000 tons of lead and/or 2,000 tons of zinc annually.

Consideration of the Edmondson bill was postponed in the upper House when Senator Gordon Allott (Rep., Colo.), offered an amendment to make it applicable to all producers of lead and zinc instead of just the smaller ones. He contended that the bill would stimulate production and tend to weaken prices. The Allott amendment would compensate larger producers for the lower prices.

The Colorado Republican proposed that the price cutoffs be reduced to 13½ cents for zinc and 15½ cents for lead, which he described as more realistic levels. He said the Edmondson rates would encourage production from marginal mines which would always need Government financial aid.

Legislation for lead and zinc subsidies is expected to be debated on the Senate floor shortly after the body resumes work around August 8. Also awaiting action by the Senate is a measure for sliding-scale tariffs for both metals. The tariff provisions are incorporated in a rider offered by Senator Robert Kerr (Rep., Okla.) to a House-passed revenue measure (H.R. 5547) for the Virgin Islands. The House bill was sponsored by Rep. Wilbur D. Mills (Dem., Ark.) who is chairman of the Ways and Means Committee.

The Mills-Kerr bill provides for imposition of a 2.00c-a-pound duty for lead which would be increased to 3.00c whenever the lead quotation is under 13.50c a pound. The extra 1.00c would be removed whenever the price of lead reaches 14.50c a pound. For zinc, the Kerr measure provides a duty of 1.50c a pound plus another 1.00c when the zinc price drops under 12.50; the extra 1.00 would be removed when the price goes over 13.50c

In a move apparently designed to smooth the way for agreement on the Mills-Kerr bill if it passes the Senate, the House Ways and Means Committee approved a request by Rep. Howard H. Baker (Rep., Tenn.) to have the Kerr provisions substituted for his own bill (H.R. 11,584) previously submitted on lead and zinc tariffs. The Baker bill originally implemented the recommendations made by the minority members of the Tariff Commission after lengthy hearings.

Approve Scrap Duty Bill

Among the legislation enacted recently was a compromise bill (H.R. 11,748) to continue the suspension of import duties on certain scrap metals for one year, until June 30, 1961. Items covered in the bill include scrap aluminum, magnesium, nickel and iron and steel scrap.

Oppose Brass Tariff Cuts

The copper and brass mill industry through the Copper & Brass Research Association filed a statement before the Tariff Commission and The Committee for Reciprocity Information opposing the possible reduction of tariff or excise taxes on certain brass mill products.

This statement was submitted by T. E. Veltfort, managing director, in response to the announcement by the Tariff Commission that it was investigating whether the "peril point" has been reached on any of the products listed for possible concessions in forthcoming trade agreement negotiations under GATT. In whole or in part, all of the seven major lines of products made by domestic brass mills except one are included in the list of products that may be considered for tariff concessions.

Two of these products alone, brass and bronze sheet, plus rod and wire, represent over 50 per cent of the 1959 shipments of the entire domestic industry.

In his statement, Mr. Veltfort pointed out that "the domestic brass mills are already suffering from the heavy inroads of imports, coming principally from the United Kingdom and West Germany together with substantial but smaller quantities from Belgium, Sweden, Switzerland, Italy and Japan. No extended analysis of the relevant data is required to show at the very least the 'peril point' has clearly been reached for the entire industry as well as for the individual products listed for tariff negotiations."

Mr. Veltfort emphasized that "the processes of manufacture in the brass mill industry are such that the skills and equipment now used to make one product can if necessary be shifted to make other brass mill products, and any action which disturbs the existing relationship among products necessarily has an economic impact throughout the entire industry. Since the list covers such a large portion of all brass mill products, it is clear that the entire industry would be placed in peril if concessions were made on any substantial part of the listed brass mill products."

Concluding, Mr. Veltfort stated that "in modern times no nation has ever developed a sound and successful economy without strong basic industries in brass, steel and aluminum. And any nation which permits its brass mills to stagnate and decline cannot expect to continue for any extended period of time as a powerful economic force in the world."

Deny Aluminum Scrap Curb

In another foreign trade area, the Department of Commerce denied a request from secondary aluminum smelters to limit exports of aluminum scrap.

The decision was communicated

(Continued on Page 10)

CALUMET & HECLA, INC.

C&H

LAKE COPPER
HIGH SILVER LAKE COPPER
ARSENICAL LAKE COPPER
COPPER OXIDE

Sales Representatives
122 South Michigan, Chicago 3, Ill.

ASARCO

producers of:

Antimonial Lead
Antimony
Antimony Oxide
Arsenic
Asbestos
Bismuth
Cadmium
Cadmium Oxide
Cadmium Sulfide
Copper
Fluorspar
Germanium Concentrates
Gold
Indium
Lead
Lead, Test
Litharge, C. P.
Molybdenum Concentrates
Nickel Salts
Selenium
Silver
Sulfur Dioxide, Liquid
Sulfuric Acid
Tellurium
Thallium
Thallium Sulfate
Zinc
Zinc Dust
Zinc Sulfate

AMERICAN SMELTING AND REFINING COMPANY
120 BROADWAY, NEW YORK

Electrolytic Lead Zinc Cadmium

◆

UNITED STATES SMELTING REFINING and MINING COMPANY, INC.

SALES OFFICE
62 William St. New York, N. Y.

ADOLPH LEWISOHN SELLING CORP.

61 BROADWAY, NEW YORK 6, N. Y.

•

COPPER

SALES AGENT FOR
MIAMI COPPER CO.
TENNESSEE CORP.

•

MOLYBDENUM

SALES AGENT FOR
DUVAL SULPHUR & POTASH CO.

Metal Traders, Inc.

26 Broadway, New York

Telephone:
BOwling Green 9-6820

◆

BUYERS and SELLERS of

ALL METALS and ALLOYS
METALLIC ORES
SCRAP METALS
RESIDUES

SUPERIOR

"All The Name Implies"

•

HIGH GRADE
ZINC DUST

INTERMEDIATE GRADE
SLAB ZINC

•

SUPERIOR ZINC CORP.
City Center Building — 121 N. Broad Street
PHILADELPHIA 7, PA. — Works: Bristol, Pa.

selling

COPPER • LEAD • ZINC • TIN

silver–bismuth–cadmium
OFHC® Copper–OFHC® Copper Anodes
solder–metal powders–zinc-base alloys
selenium–tellurium–germanium

MOLYBDENUM

ferromolybdenum–technical molybdic oxide
technical thermite metallic molybdenum
molysulfide [illegible] –molybdenum pentachloride
pure molybdic oxide–calcium molybdate

buying

ORES • SCRAP • RESIDUES

for custom smelting and refining

gold–silver–copper
zinc and lead ores, sweeps,
mattes, and bullion
copper and brass scrap
copper-bearing material
zinc drosses and skimmings
lead scrap and residues
lead-covered cable
tin-bearing material
automobile radiators

AMERICAN METAL CLIMAX, INC.
1270 Avenue of the Americas, New York 20, N. Y.

AMAX

An Estimate of

Lead Consumption by U. S. Battery Industry

By C. HERBERT ALLEN, Vice President, Vitalic Battery Co. and Allied Battery Co., Dallas, Texas, and President of Association of American Battery Manufacturers, Inc.

THERE ARE several factors which are producing a change in lead requirements by the battery manufacturing industry. These changes, in some cases, cannot be accurately forecast.

First and perhaps of greatest importance at the present time is the fact that some manufacturers of very popular automobiles changed over to a 12 volt system on some of their 1953 models. By 1956 practically all American automobiles being manufactured were equipped with 12 volt systems. Present day twelve volt batteries use more lead than do six volt batteries. It should be remembered, however, that many of the 6 volt batteries now being sold are for older model cars, and the average person who buys a battery for an older model car does not spend as much for quality as does the average buyer of a replacement battery for a newer model car. Now that many of the 12 volt batteries being purchased are for replacement purposes in automobiles that are three or four years old, there has been a drop in the lead content of the average 12 volt replacement battery. Lead for 12 volt Compact car batteries is averaging rather close to the lead used in the average 6 volt batteries.

Present indications are that 12 volt batteries will last longer than 6 volt batteries. It is certain that performance and reliability have been improved. These observations are based not only on reports received from dealers, but also on a study made of average battery age at the time replacements are found necessary. There was some thinking at first that 12 volt batteries would not last as long as 6 volt batteries, but I believe experience is now proving otherwise. Corrective measures have been taken to eliminate the early problems that existed. Automobile electrical systems, i.e., voltage regulator, hold-downs, etc., have been designed to assure better maintenance-free service, even under adverse operation conditions.

Batteries Last Longer

Second — Statistics show that all batteries, even six volt types, are now lasting longer than they were five to ten years ago. This increase in battery life can be attributed to better manufacturing methods, and also to the availability of better raw materials than were available ten or even five years ago. The reduction in antimony used in battery grid metal helped improve battery life considerably. Where several years ago the antimony content was 9 per cent up to 13 per cent by weight of the grid metal, the percentage now generally used is 7½ per cent or lower. This

Address by C. Herbert Allen at the 32nd Annual Meeting, Lead Industries Association, St. Louis, Mo., April 6-8, 1960.

TABLE I — AUTOMOTIVE BATTERY AND BATTERY LEAD STATISTICS
(Units x 1000 except where indicated otherwise)

	Composite Opinion	Est. 1960	1959	1958	1957	1956	1955	1954	1953
VEHICLES									
Total motor vehicles registered in U. S. (1)	....	71,762	70,446	68,328	67,159	65,183	62,727	58,543	56,255
New motor vehicles registered (1)	....	6,959	6,967	5,376	6,840	6,850	8,127	6,365	6,669
Reregistered vehicles in U. S. (Total reg-new reg)	....	64,812	63,479	62,952	60,319	58,333	54,600	52,178	49,586
Old motor vehicles scrapped (1)	....	5,634	5,000	4,900	4,264	4,948	4,392	4,353	4,054
Gain in total registration (by diff.)	....	1,316	2,118	1,169	1,976	2,456	4,184	2,288	2,954
Passenger vehicles mfgd. with 12 volt systems, accum.	....	36,119	30,069	23,340	17,205	10,984	5,125	1,434	404
Production of all motor vehicles in U. S. (1)	....	6,750	6,729	5,135	7,221	6,921	9,169	6,601	7,323
Export sales of U. S. motor vehicles	....	300	312	304	373	398	447	401	325
Import of vehicles into U. S. (1)	....	500	719	459	273	112	60	36	31
Vehicle miles in U. S. (x 1,000,000) (1)	....	725	696	664	647	628	603	561	544
BATTERIES:									
Auto. domestic O. E. mfgd. by U. S. Mfgrs. (3)	6,946	6,750	6,729	5,135	7,221	6,921	9,169	6,601	7,323
Tractor O. E. mfgd. by U. S. Mfgrs. (est.)	275	275	280	263	274	277	377	227	207
Auto. replacement mfgd. for export by U. S. Mfgrs. (3)	221	221	220	222	271	361	404	409	407
Auto. domestic replacement mfgd. by U. S. Mfgrs. (3)	28,369	28,701	27,495	25,270	25,943	25,014	25,828	23,771	23,614
Total auto. & tractor bats. mfgd. by U. S. Mfgrs.	35,811	35,947	34,724	30,890	33,709	32,573	35,778	31,008	31,551
12 volt only domestic O.E. mfgd. by U. S. Mfgrs.	6,946	6,750	6,729	5,135	7,221	5,859	3,691	1,030	404
12 volt only domestic replacement mfgd. by U. S. Mfgrs. (est.)	13,500	12,900	9,075	7,325	5,967	1,536	442	31	6
Total 12 volt mfgd. by U. S. Mfgrs. (est.)	20,446	19,650	15,804	12,460	13,188	7,395	4,133	1,061	410
Percent 12 volt auto. batteries mfgd. in U. S. (est.)	58%	55%	46%	40%	39%	23%	12%	3.4%	1.3%
Ratio to re-registered cars (3)	....	2.26	2.31	2.50	2.31	2.33	2.12	2.20	2.06
LEAD CONSUMED BY BATTERY INDUSTRY:									
Grids, posts, etc. (x 1,000 tons) (2)	180	196	182	160	186	192	196	....	....
Oxides (x 1,000 tons) (2)	180	186	179	153	175	179	184	....	....
Total lead used by battery industry (x 1,000 tons) (2)	360	382	361	313	361	371	380	337	357
Less lead used for industrial batteries (est.) (x 1,000 T)	34	40	35	28	38	42	34	28	37
Lead used in automotive batteries (by diff.) (x 1000 T)	326	342	326	285	323	329	346	309	320
Calculated lead per average automotive battery lbs.	....	19.0	18.8	18.4	19.2	20.2	19.4	20.0	20.3

(1) AMA 1959-60 Year Book.
(2) Bureau of Mines.
(3) AABM 1959 Year Book shows shipments which for practical purposes are considered same as production.

change greatly improved the charge retaining characteristics of a lead acid storage battery. Corrosion resistance has also been improved by not only the reduction in the amount of antimony used, but by the use of other constituents in the grid metal and also through changes made in casting the grid metal.

The reduction in antimony used in batteries has, I understand, created some problems with smelters where battery scrap is recovered. Many scrapped batteries being put through smelting operations have grid metal composed of 9 to 13 per cent antimony.

With most battery manufacturers buying a lower antimonial lead grid metal, the antimony recovered from the smelting of old batteries piles up because more is being removed from the scrap than is being purchased by battery manufacturers. In a few instances smelters offered lead having a higher antimony content than was specified at prices applicable to the lower specified antimony content. They perhaps felt the higher antimony would be welcomed by battery manufacturers because of better casting qualities, and since it appeared to be taking on the aspects of a "white elephant," some were willing to dispose of the recovered antimony at the price of lead. That, of course, would have defeated the purpose for which the antimony content was reduced.

The reduction made in antimony used in grid metal was not the result of an economy move. Actually batteries made with 4½ per cent antimonial lead alloys cost more than do batteries made using say — 9 per cent antimonial lead alloys. The slower rate of casting lower antimonial lead grids results in a higher labor cost, which more than offsets the slight decrease in the cost per pound of the alloy. There is also a slight increase in the resulting weight of the grids when lower antimonial lead alloys are used. The accumulation of high antimony dross by some smelters will undoubtedly be eliminated in the near future, if the situation has not already levelled off, when the bulk of the batteries being scrapped contain lower antimonial lead grid metal. The lower antimony content affects the value of junk batteries as you well know.

Lighter Weight Grids

Third; it has been possible to reduce the quantity of lead used in batteries because of newly designed machinery which casts lighter weight grids. Ten years ago the use of lighter weight grids meant that grid corrosion during battery service would result in reduced battery life. Now the more corrosion-resistant grid metal and improved manufacturing processes have resulted in increased battery life. Competition is becoming keener every day and economy measures must, of necessity, be taken in every manner possible.

A fourth factor also will have a bearing on the amount of lead used in the future per average battery. Development work currently in progress has as its objective the obtaining of more complete utilization of the lead oxide active material used in storage batteries. Present development work is still in the laboratory stage. A reduction of 3 or 4 per cent of lead content may become possible. This is being mentioned here as a factor which should perhaps receive consideration four or five years from now.

A fifth change in average lead content per battery that could occur, but we hope will not, is influenced largely by economic conditions. At the present time approximately 20 per cent of replacement batteries being sold are in the lowest price category. Approximately 70 per cent of replacement battery sales are in the medium price category. The remaining 10 per cent of batteries being sold for replacement purposes are in the "Premium" or highest price category. Percentage of sales in these three arbitrary price ranges has, in the past, and can in the future, change very quickly and appreciably if the National Economy changes. Popular replacement batteries in the lower price ranges at the present time have a lead content averaging from 14 to 16 pounds each. Popular replacement batteries in the medium price range have a lead content averaging from 18 to 20 pounds each. Replacement batteries in the higher price range have a lead content averaging 20 to 24 pounds each. It can readily be seen that a change in the buying habits of the public can greatly influence the amount of lead used by battery manufacturers.

A battery, say with 30 per cent less lead in it, does not result in a 30 per cent lower cost. Other parts, such as containers, covers, labor, acid cartons, etc., cost approximately the same regardless of how much lead is inside. Therefore, making a cheap, low lead content battery does not reduce costs in proportion to the loss in quality. Bear in mind we are talking now about batteries that are cheapened by simply using less materials than is considered good practice, even with the better high quality raw materials now available.

Incidentally, lead processing companies deserve a great deal of credit for the improved battery quality existing today. More uniform, higher quality lead metal and oxide can be depended upon. Research and development work performed in the laboratories of our lead suppliers has been of prime importance to much of the progress made.

Total Motor Vehicles

In order to arrive at the quantity of lead estimated for the battery industry, I first projected total motor vehicle registration for the year 1960. That was determined by adding to 1959 total registration the average gain per year during the preceding four years. (Ref. Table I.)

Total registration 1959	70,446,000
Total registration 1956	65,183,000
4 year difference	5,263,000
Average increase/year.	1,315,600

Adding that average yearly increase to the 1959 total registration gives in round figures 71,762,000.

TABLE II—BATTERY PRODUCTION RELATIONSHIP TO VEHICLE REGISTRATIONS AND VEHICLE MILES

Calculated from Data in Table I

	1959	1958	1957	1956	1955	1954	1953	High	Aver.	Low
% Replacement to Total Vehicle Registrations*	39	37	39	38	41	41	42	*42	*40	*37
% Replacement to Reregistered Vehicles	43	40	44	43	47	45	48	48	44	40
% Replacement for Reregistered minus scrapped vehicles	44	40	45	46	49	48	..	49	45	40
% Total to Total Vehicle Registration	47	43	46	47	52	50	52	52	48	43
% Total minus Export Batteries to Total Vehicle Registration	49	45	50	50	56	53	56	56	51	45
% Replacement minus Export Batteries to Total Vehicle.. Registration	49	45	49	58	54	52	55	58	52	45
Replacement Batteries per Million Vehicle Miles	39	37	38	38	41	40	41	41	39	37
Total minus Export Batteries per Million Vehicle Miles	39.5	38.1	40.2	39.9	42.8	42.3	43.5	43.5	41.3	38.1
	49.2	45.8	51.2	50.8	57.9	54.0	56.8	57.9	52.2	45.8

* Variance from year to year less than other relationships.

As a result of a poll of a number of manufacturers of automotive equipment, it was estimated that 6,950,000 new vehicles would be manufactured in 1960. That figure was added to the 1959 registration. In order to balance out at 71,762,000 total, it became necessary to assume that 5,634,000 vehicles would be scrapped in 1960.

In order to estimate vehicles with 12 volt batteries, I simply added together the vehicles manufactured with 12 volt systems starting with the year 1953. That was the year when passenger automobiles first started using 12 volt batteries. It was assumed that scrappage of vehicles manufactured since 1953 was insignificant and would not appreciably affect the calculated forecast.

Automobile production in the U. S. for 1960 was estimated on basis of estimated new vehicle registration plus export estimate minus import estimate —

(6,950 + 300 — 500 = 6,750,000).

It was assumed that vehicles to be exported in 1960 would not change appreciably from the quantity exported each of the previous three years.

I estimated there would be a drop in the number of vehicles imported because U. S. manufacturers are now making "compact" cars which should depress foreign car sales.

By referring to Table I, you will notice that it was assumed a new battery would be required for each vehicle estimated to be manufactured in 1960.

Replacement battery production in 1960 was calculated by using a factor obtained after reviewing vehicle registrations and vehicle mileage relationships with replacement battery shipments during the previous 7 years. (See Table II.) The relationship that remained most constant or showed less variation with replacement battery shipments was that relationship to total vehicle registration. The average during the previous 7 years was 40 per cent with the highest and lowest percentages being 42 and 37 respectively. On that basis I estimated there will be 28,701,000 replacement batteries produced in 1960 (17,762,000 x .40 = 28,701,000).

It is recognized that such a relationship is not readily explained but the fact remains there is a closer or narrower band of deviation when replacement battery shipments are compared with total vehicle registration.

Batteries to be exported were estimated by averaging the opinions expressed by a number of large and medium sized battery manufacturers. The result, 221,000, is approximately the same as was exported each of the previous two years.

Approximately 45 per cent of replacement battery shipments for 1960 will be of 12 volt types according to the composite of opinions expressed by the manufacturers polled. Therefore, I have estimated that 45 per cent of 28,701,000 or 12,900,000 twelve volt batteries will be produced for replacement purposes in 1960.

Total Auto Type Batteries

Since all U. S. vehicles now being manufactured have 12 volt systems, the total estimated 12 volt batteries will be 12,900,000 plus the O. E. batteries for estimated 1960 vehicle production of 6,750,000 or 19,650,000 12 volt batteries. The balance of 16,297,000 will be 6 volt batteries. Included are an estimated 221,000 export batteries and 275,000 O. E. tractor batteries — a total of 35,947,000 automotive type batteries.

Although a number of factors which have an effect on the amount of lead used by the battery industry were pointed out at the beginning of my report, I think that 12 volt batteries now in use will have the most significant effect on battery lead consumption this year.

In order to determine the quantities of lead used in average 6 volt and 12 volt batteries, a survey was made of lead recovered from several thousand scrap batteries of popular sizes from different manufacturers. Great variations were found to exist. If *original equipment* 12 volt batteries were compared with average 6 volt replacement batteries, the difference in lead content was not the same as when 12 volt *replacement batteries* were compared with 6 volt replacement batteries. There were also differences encountered between batteries of different manufacturers. When 6 volt and 12 volt batteries having similar adjustment policies were compared, the lead content was different than when making comparisons by weighting them by types in proportion to sales flow.

Lead Content

Other methods of determining lead content were also studied. The results obtained were as follows:

(All based on 1959 measurements)

	Pounds Lead per Battery	
	6 Volt	12 Volt
Assay X popular group 1 & 24 sizes	16.3	18.3
Assay X popular types with comparable adjustment policies, Weighted by sales flow	16.2	19.3
Assay Y popular group 1 & 24 S sizes	16.6	20.7
Assay Y popular types with comparable adjustment policies, Weighted by sales flow	17.0	21.6
Miscellaneous manufacturers tear down, new popular types ..	17.9	22.1
60% of U. S. production per K. W. Green in Daily Metal Reporter of 1/15/60 ...	19.0	21.0
	103.0	123.0
Average of above observations	17.2	20.5

I tested the validity of the above

TABLE III

Testing 6 Volt and 12 Volt Battery Lead Weights

	Estimated 1960	1959	1958	1957	1956	1955
Total Auto Batts.*	35,947,000	34,724,000	30,890,000	33,709,000	32,573,000	35,778,000
12V Auto Batts.	19,650,000	15,804,000	12,460,000	13,188,000	7,395,000	4,133,000
6V Auto Batts.	16,297,000	18,920,000	18,430,000	20,521,000	25,178,000	31,645,000
12V@20.5 lbs. x 1,000..	403,000	324,000	255,000	270,000	152,000	82,800
6V@17.2 lbs. x 1,000..	280,000	325,000	317,000	353,000	433,000	544,000
Total lbs. x 1,000	683,000	649,000	572,000	623,000	585,000	626,800
Total Cal. Tons..	341,500	324,500	286,000	311,500	292,500	313,400
Tons used in Auto. Batts. (Table I) ..	342,000	326,000	285,000	323,000	329,000	346,000

The above tabulation shows that particularly during the years 1958 and 1959 the 12 volt and 6 volt lead weights obtained for resolving estimated lead usage give calculated results very close to actual lead used. When looking at calculated results as compared with actual lead used for years 1957, 1956 and 1955 a greater difference exists. That is possibly caused by the fact that prior to 1958 both six volt, and particularly 12 volt batteries, contained more lead than is currently being used in average batteries.

* Includes tractor batteries and batteries exported.

lead weights per battery by applying them to batteries produced during the past 5 years. (See Table III.)

It is felt that these averages are representative of 6 volt and 12 volt batteries currently being manufactured throughout the United States. Original equipment 12 volt types may contain more lead than these averages indicate but that possibility was considered when selecting samples for lead weight determinations.

Now the previously made calculations and estimates can be resolved in terms of estimated lead that will be consumed by the battery industry during the year 1960. Estimated lead required by the battery industry in 1960 was calculated by using the averages of the weights observed as shown in Table IV.

A review of metal and oxide used during the past 5 years (Table I) shows metal has average 51.3%, oxide lead 48.7% of total lead. I have, therefore, projected those percentages for 1960 thus:

381,500 x 51.3% = 196,000 Tons Ant. Lead.

381,500 x 48.7% = 186,000 Tons Oxide Lead.

The above quantity of lead, 381,500 tons forecast for use in battery manufacturing compares with 361,114 tons reported used in preliminary Bureau of Mines report for 1959. You will notice this is an increase of approximately 6 per cent as compared with an estimated battery production increase of approximately 4 per cent. The greater number of 12 volt batteries in use will, I believe, account for a greater lead usage increase than the increase in vehicle registration would indicate this year.

Compact Car Needs

You may be interested in the lead used for U. S. "compact" car batteries. At the present time indications are that such batteries will contain 15 to 16 lbs. of lead each. That is somewhat less than the lead weight in the average 6 volt batteries now being sold.

According to the latest information I have (Automotive News) as of January 1, 1960, there are 1,422,163 foreign cars in operation in the U. S. Batteries for these cars use approximately the same quantity of lead as U. S. compact cars. Therefore, both U. S. and foreign compact cars will have a tendency to lower the lead content per average battery.

Finally a word about my calculated forecast and the composite opinion of a cross section of the country's battery manufacturers and suppliers. I will not take your time reviewing the figures in Table I of my report. I will simply say that my calculated total battery production forecast lies within one per cent of the composite opinion given by battery manufacturers and merchandisers.

Composite Opinion

The composite opinion on lead usage by the battery industry is, however, approximately 6 per cent less than my calculated forecast, i.e., 360,000 tons instead of my estimated 382,000 tons. I received a great many more opinions on battery production for 1960 than on lead usage. I am, therefore, going to let my calculated quantity of 382,000 tons stand as my forecast. Remember that a test of the lead averages determined by actually weighing or assaying was very close to the quantity of lead used by the battery industry as reported by the United States Bureau of Mines. Perhaps actual usage in 1960 will fall between 360,000 and 382,000 tons. If it does, I don't think anyone would find too much cause for criticism.

In closing, I want to express my thanks and appreciation for the helpful suggestions and opinions I received from other members of the Association of American Battery Manufacturers. Their marketing experts and analysts were cooperative beyond expectations.

TABLE IV

Estimated Lead for Storage Batteries in 1960
(See Table I and Table II)

	Batteries	Lbs. each		Tons
12 Volt Batteries 54.7%	19,650,000	@ 20.5	=	201,500
6 Volt Batteries 45.3%	16,297,000	@ 17.2	=	140,000
Total automotive and tractor Batteries	35,947,000	@ 19.0		341,500
Lead required for industrial batteries				40,000
Grand Total Lead required for Battery Industry				381,500

Washington Report

(Continued from Page 4)

by Assistant Secretary of Commerce Carl F. Oechsle to Carl H. Burton, secretary, Aluminum Smelters Research Institute, Chicago, Ill., who had urged the imposition of quota controls for aluminum scrap under the Export Control Act, contending a shortage of scrap was imminent.

In his letter, Mr. Oechsle said: "Even though, as you point out, exports of aluminum scrap have increased substantially, there is at present no perceptible scrap shortage, nor is one foreseen in the immediate future. Further, we find no indication of inflationary impact on the general economy caused by aluminum scrap exports. Therefore, no action is proposed to be taken at this time under the Export Control Act."

Mr. Oechsle added that the matter would be kept "under continuing observation" and that "proper action would be taken" should conditions justify it.

Stockpile Value Down

The cost value of materials in 9 federal stockpile inventories as reported by the Agriculture Department, General Services Administration and Office of Civil and Defense Mobilization, on May 31, 1960, totaled $15,926,774,000, according to Senator Harry F. Byrd (Dem., Va.), chairman, Joint Committee on reduction of Nonessential Federal Expenditures. May activity in these stockpiles resulted in a net decrease of $1,652,000.

The net change in these stockpile inventories reflects acquisitions, disposals and adjustments.

Strategic and critical materials are shown in 6 inventories totaling $8.5 billion, including the $6.2 billion national stockpile for which itemized detail is classified. Combined figures from the other 5 inventories show materials (in all grades and forms) leading in cost value at follows:

Alumium, bauxite, etc., with 6.1 million tons at a cost of $461 million;

Tungsten, with 84 million pounds at a cost of $341 million; and

Manganese (and ores), with 4.5 million tons at a cost of $299 million.

Expanding Role Likely for

Aluminum in International Trade

By NATHANAEL V. DAVIS, President, Aluminium Limited

IT is a great honor for the company I represent, and for me, to talk to you at this meeting of the Chamber of Commerce France-Canada. And because the product of my company, aluminum, is one which will play an important part in the future economic relations between Europe and Canada, and I appreciate this opportunity to address such a distinguished audience about important changes occurring in this industry and in the international trade in aluminum.

France being the country of Sainte-Claire Deville and of Heroult, responsible for many firsts in the field of aluminum, a prominent producer of the metal as well as a leader in the technology of aluminum, I trust my topic will be of interest to you.

Aluminum Second to Steel

Today aluminum is one of the leading metals in the world's industrial society, second only to steel in volume produced. In bringing the metal from obscurity to wide usage, both France and Canada have been leaders — France for the reasons just mentioned and Canada because of its exceptionally favorable circumstances for large-scale production including its large resources of hydro-electric power located on tide water.

There are many links between France and Canada in the production of aluminum. Each nation was among the first to produce the metal in commercial quantities, France in 1888, Canada in 1901. And, of course, aluminum production in Canada has until recently been carried on entirely in that part of Canada originally called New France. The city where our company, Aluminium Limited, has its headquarters — Montreal — has the largest French-speaking population of any city in the world other than Paris. This makes me all the more sorry to speak to you in English.

Despite certain similarities between France and Canada there are in the field of aluminum significant differences. Canada, even with one of the highest per capita consumption levels, consumes only 15 per cent of its aluminum production, and has for many years served fabricators and manufacturers all over the world, thus becoming the leading factor in international trade in aluminum. France has developed her aluminum industry chiefly for national needs. Users of aluminum in France because of a high tariff on aluminum imports and, until recently, other import restrictions, have relied so far almost entirely on national production.

Self-Sufficiency in Aluminum

France, however, is not unusual in being largely a self-sufficient market, Self-sufficiency in aluminum has meen a matter of strategic national policy in many countries. But now with the growing popularity of the metal for countless civilian applications, consumption in many countries exceeds local production, and imports have become a regular part of the supply available to fabricators and other users. We are, I believe, on the threshold of a new era in the industry. Today only about 20 per cent of the aluminum produced in the free world enters into international trade, the balance of 80 per cent being consumed in the country where produced. But there are factors are work which are changing this. We are going to see more aluminum production developed in the less industrialized areas of the world and shipped to the more advanced countries. This will result in greater movement of the metal in international trade; it will also have important political and sociological effects.

Among the reasons for this fundamental change which we see coming there is first the fact that it is becoming more and more difficult to obtain the electric power for the production of aluminum within the industrialized and populated areas. As you know, the production of aluminum requires immense quantities of electric energy available on a constant basis and at prices considerably less than those paid by other manufacturing industries, by households or other users.

Placing Plants Near Mines

Another reason is that with aluminum consumption in the western world now at a level of over three million tons and promising to continue to expand to higher levels in the years ahead, the factor of transporting the raw materials for its production, principally the ore bauxite, to the places where electric power is available in sufficient quantities, increases in significance. Today only a small fraction of the many millions of tons of bauxite is made into metal at or near the bauxite mines which are located mostly in the tropical, underdeveloped areas. We are already seeing a tendency to lessen the need for ships, and port and railroad facilities by the location of the ore-processing plants, the alumina plants, near the bauxite mines rather than near the smelters. Our company has built two alumina plants in Jamaica and is building another in British Guiana, all three adjacent to the bauxite mines. Similarly, French and other interests are completing the construction of the first alumina plant in Africa at FRIA, Guinea. In the same country our company has undertaken a similar project in Boke and is at present working on an international consortium, including French producers, for its realization.

As this factor of transportation of raw materials becomes even more significant, there will undoubtedly be a tendency to place new aluminum production plants at locations where a satisfactory combination of large resources of bauxite and electric power can be found. The inevitable result of these changes will be a greater movement of aluminum ingot in international trade.

One should, I suggest, see this as one aspect of the new conditions we are likely to experience in this decade, during which international trade will become increasingly important in supplying the needs of growing populations. In 1959 the total value of all international trade in the western world amounted to about 100 billion dollars. By 1970 this may increase to at least 150 billion dollars. In this expansion aluminum will be one of the products adding to the increase.

A shift to more international trade in primary aluminum will, I think, inevitably require dismantling many of the measures used by countries to protect their local aluminum indus-

---

Address delivered before France-Canada Chamber of Commerce in Paris, March 1, 1960.

tries. Such a process is of course contemplated within the regional trade blocs being established in Europe. A similar process has also been under way in the United States and Canada, since before the last war. An excellent opportunity for freeing world trade in aluminum from the accumulated restrictions is offered in the emergence of the Common Market in which the widely different tariffs of the individual countries are to be made into a single common external tariff. If the decision is to select a low rate, there will be freedom for industries and manufacturers of goods in the Common Market to buy their basic raw material as they wish. They will consequently be on a more competitive basis with the manufacturers in other areas and also able to meet the expanding requirements of the Common Market itself. I am sure you would agree that the interests of these users of aluminum in Europe deserve the most attention in setting the rules of trade with other areas, for it is they who will decide whether to use aluminum or some other material.

Even today more than one-fifth of the supply of aluminum for the Common Market area comes from outside, mostly from Canada and Norway.

We are delighted to observe that France, and Europe as a whole, has now attained a remarkably healthy economy. In this resurgent France and Western Europe, the rate of growth in consumption of aluminum and other materials suited to today's modern markets may well surpass the phenomenal growth enjoyed in North America in the postwar years.

Aluminium Limited's manufacturing activities in France and Europe, while modest, do date back a good many years and are indicative of a countinuing and, I might say, constantly growing interest in Europe as a dynamic market for aluminum products in all forms.

We have been particularly pleased that during 1959 our affiliated company, Aluminium Meridonial S. A., opened a small but modern extrusion plant near Chartres. We hope that this operation will contribute to the development of aluminum usage in France, particularly in the architectural and construction fields.

The large increase in demand which we foresee leads us to conclude that Common Market countries will have to look more and more outside their countries for some of the aluminum supplies their industries will require. In the immediate future both Canada and Norway offer capacity, both developed and in process of developing, which should meet the growing needs of the area. Looking beyond the immediate future, however, new sources of production will have to be developed.

A great deal of attention is being being given to the often discussed projects in the newly emerging nations of Africa. There are also possibilities of large-scale aluminum production in other areas such as Australasia and parts of South America, as well as North America. In fact, a list of possible projects with undeveloped electric power potentials throughout the free world amounts to about 6,000,000 tons. While the potenial projects in the remote areas of the world will, by their very nature, require many years to bring into production and tremendous capital expenditures, the interim needs can, we believe, be adequately met from existing sources.

Reducing Trade Barriers

In suggesting that these interim needs can be well served from existing sources, such as Canada, and that trade barriers should be reduced to the minimum to permit maximum growth, I recognize the possibility of appearing to speak only from self-interest — and without regard for the position of others. Some people may say, for example, that the aluminum producing companies of Europe will need protection from the larger enterprises elsewhere. This does not give proper credit to the firm preferential position these companies have in their home countries, being well integrated on the fabricating side and possessing large resources in fields other than aluminum. Nor does it give credit to the ability they have demonstrated as competitors in world markets.

Few will dispute that trade among friendly nations is highly desirable. In Canada the relation of foreign trade to total economic activity is high. It is a matter of great interest to us in Canada to observe the increasing importance of imports of all types of goods from Europe to Canada. The list of commodities which are exported from countries of the Common Market to Canada is exceedingly long and comprises practically all the products for which these European nations are well-known throughout the world.

Canada is a growing market for French automobiles, iron and steel manufactures, tractors, wines, clothing and many other goods. For almost all of the postwar period, trade between Canada and the six countries of the Common Market was favorable to Canada, but now this disparity has been greatly reduced, and in some instances, as in the case of France, the balance of trade is in favor of this country.

Canada's exports to Europe have been, and still are, mostly in those products for which Canada has advantages, such as grain products and basic raw materials but with an increasing variety of finished products. Among Canada's exports to the Common Market area, aluminum ranked third in 1959.

I have spoken at some length on our views of the changing character of international trade in aluminum and for the consequent desirability of removing trade barriers. In short, we stand for free trade in aluminum and in the western world. We believe this is the best course for the western world to take in this metal which is growing in acceptance everywhere.

I have also referred briefly to the special relationship between France and Canada in aluminum and in the general fields of trade. While I am unqualified to suggest that these views apply equally to all major materials moving in international trade, it does seem apparent that acceptance of liberal trade policies should go a long way to resolve the difficulties which will inevitably result if there is solidification of rival trade blocs. I am happy to say in conclusion that there are increasing indications that the benefits of liberal trade views are being given greater recognition.

Aluminum Shipments in '60 Seen Equal to Last Year

Aluminum shipments to consuming industries this year should total about 5,000,000,000 pounds, approximately equal to those of 1959, the peak year, it was predicted by the Business and Defense Services Administration, Department of Commerce.

BDSA said that the 1959 shipments included a substantial amount of inventory accumulation.

The agency said not much change is expected in the third quarter of 1960 but forecast somewhat higher shipments in the final period. Primary production was forecast at about 4,200,000,000 pounds this year against 3,900,000,000 pounds in 1959.

Shipments this year have been bolstered by fairly heavy exports of pig and ingot. Shipments to domestic consumers alone were 8 per cent lower in the early months of 1960 than in 1959.

U.K. COPPER MARKET PRESENTS MIXED APPEARANCE; BEARISH POINT OF VIEW HAS A LARGER FOLLOWING

New Tin Agreement Seen Preventing Recurrence of 1958-Type Collapse; Global Lead Prospects on Gloomy Side; Report Clouds on Zinc Horizon

July 7, 1960

By L. H. TARRING
London, England

IN June, copper market observers have continued to suffer from a form of schizophrenia. With one eye they have been watching the world copper statistical position, American market developments, and the latest and rather more disquieting reports, from behind the scenes, on the economy in the U. K. With the other eye, however, they have studied no less important factors, the trouble Belgian Congo, so important a supplier to the European and the U. K. market, the currently strong rate of consumption by most industries in this country, and the level of stocks in L. M. E. warehouses, which has so far failed to move in the direction of the more plentiful supplies which various people have been predicting for most of the month. Both on a sampling of dealer sentiment and on the evidence of the prices, the bearish point of view may be considered to have a slightly larger following.

For many people the major testing time was just as June turned to July, and anxiety over future supplies of copper from the Belgian Congo was justifiably at a peak. Throughout the period the London market remained almost unmoved and prices were able to advance only a paltry pound or two. On the other hand, those who feel that the bears are still premature today (as the latter will themselves admit they have been for six months or more) saw proof of their rightness at the time of the dock strike at Liverpool in the middle of the month. An important port for copper, Liverpool receives a fair proporiton of Chilean arrivals and, more to point, anything that may be coming here from the U. S. A. As the only part of the world which would have the copper to spare which could increase L.M.E. warehouse stocks is the U. S. A., it was obvious that for the duration of the strike, stocks could not be increased, and the pressure on the cash position was at times quite noticeable.

Even now, when the same pressure is not in evidence from either dealer or consumer sources, it is still felt that the last word has not been said from the technical point of view; unless some metal is somehow put on warrant before the end of this month, something of a technical spurt in prices is thought possible in August. Of course, another market influence on which the last word will probably not have been said for many months to come, is the new Congo Republic. When independence day (June 30th) came and went without any evidence of any more serious political disturbances than might reasonably be expected to accompany such a development, some people began to take a rather sanguine attitude towards this question, especially in view of the fact that the Katanga area, which is important from the copper point of view, was obviously far less affected than other areas.

Subsequently, however, reports of mutinies in the National Army, by native Congolese troops have tended to shake complacency. Altogether, therefore, copper is a mixed and vexed market, not merely between Africa and London, London and Birmingham, but between London and New York as well. How events sort themselves out in the coming months, against a background of the dog-days of the year, will be most interesting to watch.

Study New Tin Pact

June saw the new announcement of the intended form of a new tin agreement to run from July 1, 1961. There is no doubt that the shock would have been if no further tin agreement had been decided on, but the form of the new agreement contained sufficient interesting departures from that of the present one to give the market observers something to study. Probably the most significant innovation is that authority has been given to the Buffer Stock Manager to borrow money against tin which he already holds in order to buy further tin to support the market should the occasion so demand. This would of course mean that the famous collapse of September 1958 would not need to recur. It has indeed been pointed out that on the

U. K. COPPER STATISTICS

According to the British Bureau of Non-Ferrous Metal Statistics, U. K. production of refined copper during April showed a decline at 16,083 tons (18,323 a month earlier). Stocks of refined copper at the end of April showed an increase over the March figure of 45,277 tons (39,878 tons) as did blister at 14,127 tons (12,599 tons). Consumers held 26,261 tons of refined compared with 24,233 tons a month earlier. Consumption showed a decline at 58,678 tons (67,982 tons). Details are given below:

Unalloyed Copper Products	April 1960	Jan.-April 1959	Jan.-April 1960
Wire*	23,085	73,369	95,019
Rods, bars and sections	1,348	6,790	6,854
Sheet, strip and plate	4,317	18,838	19,745
Tubes	5,753	20,960	23,791
Castings and misc.	650	2,600	2,600
Alloyed Copper Products			
Wire	1,522	5,655	7,058
Rods, bars and sections	13,131	44,577	55,396
Sheet, strip and plate	9,308	32,963	41,143
Tubes	1,811	7,278	7,574
Castings and misc.	7,467	25,152	29,314
Copper sulphate	3,825	13,826	9,879
Total all products	72,217	252,008	298,373
Copper content of output	58,678	204,477	245,563
Consumption of refined copper	41,147	154,729	186,101
Consumption of copper and alloy scrap‡ (copper content)	17,531	49,748	59,462

* Consumption of H. C. copper and cadmium copper wire rods for wire and production of wire rods for export.
† Virgin and secondary refined copper.
‡ Consumption of copper in scrap is obtained by the difference between copper content of output and consumption of refined copper, and should be considered over a period since monthly figures of scrap consumption are affected by variations in the amount of work in progress.

U. K. TIN STATISTICS

Tin consumption in April showed a decline at 1,774 tons compared with 2,191 tons in March, according to the British Bureau of Non-Ferrous Metal Statistics. Production also showed a decline at 1,645 tons (plus 14 tons secondary) compared with 2,743 tons (19 tons) a month earlier. Stocks fell again at 10,349 tons against 10,677 tons for the previous month. Details of consumption of primary tin are given below:

	April 1960	Jan.-April 1959	Jan.-April 1960
Tinplate	879	3,253	3,922
Tinning:			
Copper wire	38	191	174
Steel wire	8	35	38
Other	65	263	267
Total	111	489	479
Solder	149	735	676
Alloys:			
Whitemetal	221	1,007	949
Bronze and gunmetal	202	676	839
Other	41	134	160
Total	464	1,817	1,948
Wrought Tin*			
Foil and sheets	26	94	91
Collapsible tubes	20	76	95
Pipes, wire & capsules	3	16	12
Total	49	186	198
Chemical and other uses‡	122	431	500
Total all trades	1,774	6,911	7,723

* Includes Compo and "B" metal.
‡ Mainly tin oxide and tin compounds.

AVERAGE BRITISH PRICES FOR COPPER, TIN, LEAD, ZINC

(Per Long Ton)

Mean of Bid and Asked Cash Quotation at Close of Morning Session on London Metal Exchange

	COPPER			TIN			LEAD		ZINC	
	Cash	3 Months	Settlement	Cash	3 Months	Settlement	Current Month	3rd Following	Current Month	3rd Following
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1954 Averages	248 17 11	239 17 7	249 0 11	719 8 11	709 17 7	720 6 7	98 8 12	94 7 4	78 5 4	77 16 11
1955 Averages	351 14 11	341 0 3	352 5 6	740 2 12	736 12 11	740 12 8	105 17 3	105 9 6	90 13 4	89 12 3
1956 Averages	328 14 5	324 13 1	329 1 8	787 14 9	774 7 7	788 13 3	116 6 5	114 8 9	97 14 3	95 3 7
1957 Averages	219 8 10	221 0 3	219 12 10	754 15 4	747 10 10	755 3 11	96 12 9	96 13 2	81 11 7	80 1 1
1958 Averages	197 13 3	197 9 3	197 16 11	734 18 6	734 17 11	735 6 1	72 15 8	73 6 10	65 17 12	65 10 12
1959										
January	230 2 0	227 5 10	230 5 0	758 15 6	759 4 9	759 2 10	71 17 0	72 3 3	74 17 8	72 18 8
February	236 4 2	235 10 8	236 7 6	772 9 9	773 9 0	772 15 0	69 19 4	70 16 6	73 13 8	71 19 8
March	248 10 3	247 12 2	248 13 6	779 14 9	783 5 9	780 1 6	69 10 3	71 4 2	75 2 5	73 18 8
April	240 0 5	240 6 6	240 3 5	782 5 3	783 15 5	782 11 4	69 1 0	70 8 4	72 13 9	72 9 2
May	236 4 2	236 11 6	236 6 9	784 4 3	784 10 9	784 10 0	70 16 0	71 13 10	77 7 1	75 17 6
June	230 0 11	230 0 4	230 3 8	788 7 9	789 8 10	788 14 1	69 13 4	71 5 8	78 8 2	77 6 11
July	220 17 6	221 14 9	221 0 3	792 6 6	790 16 4	792 13 6	70 5 0	71 1 2	80 10 7	79 13 4
August	232 16 9	231 9 3	233 0 0	792 18 6	791 18 3	793 4 6	72 3 3	73 3 1	85 5 11	83 19 5
September	230 7 6	230 8 8	230 10 3	792 15 0	792 6 4	793 0 5	70 14 5	72 1 10	86 1 5	84 19 10
October	241 18 5	236 17 5	242 2 11	794 2 9	794 8 2	794 8 2	70 12 5	71 12 2	91 7 4	89 9 2
November	250 11 8	241 7 7	250 18 1	795 7 5	795 14 6	795 13 4	72 2 11	72 7 10	94 18 8	90 3 7
December	255 8 10	239 15 1	255 14 7	789 3 2	785 6 8	789 11 4	72 13 11	72 9 0	95 3 10	90 3 3
1959 Averages	237 13 1	234 15 7	237 16 8	785 7 10	785 10 0	785 14 2	70 15 7	71 13 9	82 4 8	80 5 4
1960										
January	259 5 3	246 8 9	259 12 0	791 7 6	787 11 0	791 14 0	74 15 8	74 10 6	94 11 5	91 14 11
February	263 17 5	245 17 6	264 5 0	792 7 5	790 3 10	792 15 3	73 17 3	73 15 6	88 17 2	88 18 5
March	253 5 4	237 14 10	253 11 4	787 11 0	786 15 0	787 17 10	76 5 4	75 7 4	90 3 2	88 17 12
April	262 2 1	244 15 0	262 8 5	790 11 4	785 5 0	790 18 11	77 10 6	76 11 5	92 8 7	89 15 11
May	248 4 8	243 0 3	248 9 7	785 1 4	784 0 0	785 7 9	77 8 3	76 16 6	92 1 11	91 9 1
June	250 15 0	244 2 6	250 19 3	793 5 0	789 3 4	793 11 5	73 7 6	74 0 8	90 11 11	90 3 10

basis of a 20 per cent cover (which might perhaps be disputed) the Buffer Stock Manager would be able to accumulate no less than 100,000 tons of tin — a frightening thought.

From the market point of view it is not likely to make much difference that Germany and Japan will probably ratify the new agreement and participate in it. The countries whose participation would have been of market important — Russia and U. S. A. — are of course still withholding from membership.

As far as the movement in prices this month is concerned, a devleopment arising out of the present tin agreement has been an important factor. This was the expiry of the Buffer Stock Manager's authority to operate in the middle range £780 to £830. As he had been lending metal to the market for some little time past in a quiet way, his departure from the scene with prices at about £800 left him with dates to mature (it is said right to the end of July) and the market unable to borrow any more tin from him with which to meet these dates as they matured. This, coupled with the hasty transfer of Indonesian ore from Texas City to Butterworth, which precipitated something of a physical tightness as well, has meant that the market has embarked on an upward tack, and it is hard to see how the broad trend can be reversed until prices touch £830.

Lead Outlook Gloomy

The headway which lead prices laboriously made in May was all dissipated in June and by the end of the month they were back close to the familiar £70 a ton level. Looked at purely from the point of view of the U. K. market, this development might cause some surprise, as consumers, in the current phrase here, "have never had it so good" and supplies, thanks to the big producers' restriction policies, are not oppressively large. The London market, however, reflects the world scene, not merely that within these shores, and on a global basis it is very hard to say anything about lead that doesn't look like gloom if not defeatism.

Clouds on Zinc Horizon

Turning to zinc, and reverting to the U. N. Study Group meeting in September, it would appear that the producers will not perhaps be all smiles on this front either, although the position is still more than healthy enough to justify their present rate of output of zinc. At the same time, one or two ugly little clouds have appeared on the economic horizon, in the U. K. if nowhere else. In this country these are being blamed on the credit squeeze measures introduced in the last couple of months, but some people are saying behind the scenes that the credit squeeze is now rather superfluous as some sectors of the economy—and motor cars are the most conspicuous — seem already to have entered their own deflationary phase.

Whether this would be seasonal or not nobdy can say at present, but the fact remains that one motor car manufacturer here has already cut out all overtime and there are rumors of another contemplating cutting working hours. For better or worse, zinc is heavily dependent on die castings, and they in turn are heavily dependent on motor cars. Nobody would complain about zinc consumption in the U. S. A. this year, but the gilt on the gingerbread is really attributable to the boom conditions which have characterized European zinc consumption. It would be a pity if this where to be lost.

U. K. LEAD STATISTICS

According to the British Bureau of Non-Ferrous Metal Statistics, stocks of lead during April showed an increase at 50,363 tons (42,412 imported and 7,951 English Refined) compared with 41,248 tons (33,442 imported and 7,806 English refined) the previous month. Production showed a decline at 8,099 tons English Refined against 9,522 tons a month earlier. Full consumption details are given below:

	April 1960	Jan.-April 1959	Jan.-April 1960
Cables	6,713	32,263	32,823
Batteries — as metal	3,438	9,495	13,907
Battery oxides	2,671	8,818	11,849
Tetraethyl lead	2,076	6,87	7,326
Other oxides and compounds	1,699	8,765	9,661
White lead	668	2,598	2,849
Shot (incl. bullet rod)	409	1,378	1,829
Sheet and pipe	5,674	21,639	23,969
Foil and collapsible tubes	317	1,152	1,555
Other rolled and extruded	618	2,082	2,514
Solder	1,128	4,731	5,251
Alloys	1,571	6,525	6,720
Miscellaneous uses	1,166	4,450	4,947
Total consumption	28,148	110,783	125,200
of which:			
Imported virgin lead	14,303	56,363	62,834
English refined	6,232	23,831	29,345
Scrap including remelted	7,613	30,589	33,021

U. K. ZINC STATISTICS

According to the British Bureau of Non-Ferrous Metal Statistics, stocks of zinc in April again showed an increase at 54,491 tons compared with 51,064 tons in March. Consumers stocks rose from 18,684 tons in March to 20,296 tons. Production of primary metal in April was 6,165 against 7,110 for the previous month. Consumption details are given below.

	April 1960	Jan.-April 1959	Jan.-April 1960
Brass	9,958	35,606	42,536
Galvanizing	7,680	31,726	33,219
of which:			
General	2,748	10,799	11,732
Sheet	1,874	8,435	8,023
Wire	1,757	6,656	7,476
Tube	1,301	5,836	5,988
Rolled zinc	1,846	8,196	8,217
Zinc oxide	1,986	9,524	9,287
Zinc diecasting and forming alloy	4,766	16,474	22,829
Zinc dust	879	3,683	4,470
Miscellaneous uses	954	3,605	3,896
Total all trades	28,069	108,814	124,454
of which:			
Slab zinc			
High purity (99.99%)	5,200	17,755	24,995
Electrolytic and high grade (99.95%)	5,267	20,854	23,724
G.O.B. Prime Western and debased	9,940	40,170	44,710
Other virgin material	191	838	889
Remelted zinc	506	1,889	2,424
Scrap — zinc (content)			
Zinc metal, alloys and residues	2,361	10,880	10,704
Brass and other copper alloys	4,604	16,428	17,008

DOMESTIC COPPER DEMAND CONTINUES QUIET DESPITE CONGO CRISIS; MARKET SENTIMENT MORE OPTIMISTIC

U.S. Producers and Custom Smelters Hold 33c Level; Premiums Reduced On Higher Grades of Zinc; Lead Steady; Aluminum Dull; Tin Price Soars

July 22, 1960

THE crisis in the Congo, which captured the world's headlines during the month, was watched with interest by all segments of the copper industry since the area produces roughly 8 per cent of the Free World's copper output and adjoins the rich Copperbelt area of Rhodesia. While the London Metal Exchange seesawed in response to the dramatic developments in the Congo, consumers in the U.S. refused to get excited and went about their limited business apparently unconcerned. Among the other metals, lead and zinc meandered along in a summer-slowed pace and aluminum showed signs of softening. Tin made surprising news when prices soared so spectacularly that unconfirmed rumors cropped up of possible requests for the Government to release metal from the stockpile.

Copper consumers at home and abroad appear to be merely interested spectators with respect to the Congo situation. The prospects of having the Katanga supply of copper cut off for a while has occasioned no panic or even great concern. There is no copper shortage in prospect. Just now many domestic fabricating plants are closed for a two-week vacation. July is seldom a month for any great activity in copper and this month is no exception. The prospects are that producers will not sell their entire month's output, and unless foreign demand picks up, some domestic custom smelters may not be able to dispose of their entire July intake.

Although the disturbances in the Congo did not serve to push domestic consumers into the market, it was a factor in changing the sentiment in some copper circles from pessimism to mild optimism. Those who felt that the price structure was wobbly, that come July or at the latest August, there would be a drop in the custom smelter price from the 33.00c level, are no longer certain that this will happen. Other factors responsible for the switch in sentiment include the possibility of trouble in the Copper belt and the prospects of a strike in Chile at the end of September when Anaconda's contract with the union at Chuquicamata expires.

However, many of those who had anticipated a break in price are by no means convinced that it will not happen. In their opinion, the time table may be changed if Katanga's production which amounts to about 310,000 tons a year, is disrupted for an indefinite period, if the output in Northern Rhodesia amounting to about 590,000 tons a year is interfered with and if there is a protracted strike at Chuquicamata whose output last year was close to 280,000 tons. These three areas produce close to 100,000 tons of copper a month and a loss of one or two months' production, it is admitted could change the market's complexion. But will these calamities happen?

If they should, the London price for copper would soar to much higher levels. It is now in the neighborhood of 31.50c a pound (£252 a ton). Those who believe that production will not be interfered with for any great length of time, still adhere to their conviction that this year's world output will exceed demand and that this will force the London price down. probably to £240 a ton (30.00c a pound). When that happens, the domestic 33.00c price would become vulnerable.

As to the domestic consumption of copper, it is generally agreed that an improvement is long overdue and that business has been so poor that any change is likely to be for the better. Some brass and wire mills have already experienced a slight pick-up in buying on the part of their customers and look for further improvement next month.

Stock Increase Welcomed

Those who anticipate that the trouble in Africa will last for some time are most anxious to see a build up of stocks so that the producers will be in a position to check any runaway market tendency. They would like to see domestic stocks in the neighborhood of 100,000 tons (this wish may come close to realization this month or next), simply as a precautionary measure. However, if production in Africa and Chile are not greatly interfered with, s t e a d i l y mounting stocks could have a depressing effect on the market.

The stocks of refined copper in the hands of U. S. producers at the end of June totaled 87,667 tons, an increase of 22,239 tons, according to figures compiled by the Copper Institute. The increase, while substantial, is causing no concern because the stocks are still below normal. The big gain was attributed to the fact that the refineries dug deeply into their blister stocks to produce refined metal, the refined output for the month being a record 161,073 tons, an increase of 14,023 tons over May.

The domestic crude production in June came to 111,929 tons, a decrease of 6,200 tons from May.

Foreign Output at Record

Production of crude copper outside the United States broke all previous records, the June total being 210,422 tons, a gain of 10,233 tons over May. Refined output, however, was off 7,466 tons, the June total being 168,651 tons.

There was also a drop in foreign deliveries of copper, the June deliveries amounting to 198,093 tons, a decrease of 15,424 tons from May.

Foreign stocks of refined copper at the end of June were 252,405 tons, a gain of 5,067 tons, making the stocks the largest that they have been since the end of September 1959.

World Output Exceeds Deliveries

The world production of refined copper in June exceeded the deliveries by 25,424 tons, but for the first six months of the current year there was a fine balance between the two. The world output of refined copper in June came to 329,724 tons, a gain of 6,557 tons over May, and the deliveries of refined metal to consumers were 304,300 tons, a drop of 17,483 tons. In the first six months of the current year, the world's refined output was 1,810,363 tons and the deliveries in the same period were 1,805,388 tons, a difference between the two of a little less than 5,000 tons.

World blister stocks at the end of June showed a drop of 7,373 tons and refined stocks gained 27,406 tons, so

that there was a net increase of 20,033 tons.

Gain in New Business

In spite of the fact that domestic brass and wire mills have been reporting only a slight improvement in the volume of new orders booked by them, the June figures show a gain of 13,217 tons over May, bringing the June total to 127,143 tons, the largest that it has been since September 1959.

A comparison between the first six months of the current year with the same period last year, however, shows a drop of 24 per cent in 1960 in the sale of fabricators' products. For the first six months of this year the sales (in terms of copper to be used) came to 577,223 tons as compared with 759,960 tons in the same period in 1959.

June Consumption Higher

Apparent consumption of refined copper by the brass and wire mills and foundries in June (based on shipments of fabricated products) was 112,223 tons, a gain of 4,385 tons over May. For the first six months of this year consumption was 647,928 tons as against 736,698 tons in the same period last year, a drop of 88,770 tons, or about 12 per cent.

Since the volume of new business booked in June exceeded shipments by 14,920 tons, the unfilled orders on fabricators' books at the end of last month were increased by that amount, bringing them to 132,070 tons, the largest that they have been since last March.

Zinc Premiums Reduced

The only excitement in the zinc market during the month was made by the announcement of reduced premiums for Special High Grade and Regular High Grade zinc. Special High was cut 0.25c to 14.50c a pound delivered and High Grade 0.15c to 14.35c, retroactive to July 1. There was no change in the differential for Brass Special and the Prime Western quotation held firm at 13.00c East St. Louis.

A leading factor in the industry gave three reasons for the reduction in the premiums. One was that while the 1.75c premium for Special High Grade was supposed to have gone into effect on April 1, a large producer was said to have taken business for shipment of Special High Grade to the end of 1960 at a 1.50c a pound premium. A second reason is that in spite of the good demand for Special High Grade zinc abroad, foreign metal has been offered on the Eastern seaboard at a premium of 1.25c a pound above the price of Prime Western. And the third reason is that the independent die casting alloy makers found it difficult to operate profitably having to pay 14.75c a pound for Special High Grade and selling the No. 3 alloy at 16.25c a pound. The alloy prices remain unchanged.

The drop in the premiums did not come as a great surprise to producers and sellers of Special and Regular High Grade zinc. The demand for these grades has been anything but active and the statistical position has also left much to be desired. Some consumers of Special High Grade are believed to have held off making purchases in anticipation of a drop in the premium. Whether the lower premium will stimulate buying remains to be seen. The demand for Prime Western continued light.

Zinc Statistics Depressing

The zinc statistics for June made depressing reading for members of the industry. Production was little changed, shipments declined and stocks soared to their highest level since October, 1959, according to figures issued by the American Zinc Institute.

Although June production of 76,723 tons was 2,493 tons below the May output of 79,216 tons, on a daily basis the figures for both months were virtually identical. In June of last year, output came to 75,544 tons. For the first half of this year, zinc production amounted to 473,252 tons, an increase of 16,252 tons from the 456,999 tons turned out in the corresponding period of last year.

The decline in shipments in June from May was about equally divided at home and abroad. Shipments to domestic consumers in June totaled 50,690 tons against 54,790 tons in May, a drop of 3,100 tons, while export and drawback shipments came to 3,385 tons in June, a decline of 3,994 tons from the May figure of 7,379 tons. Total shipments in June amounted to 54,075 tons, a drop of 7,964 tons from the 62,039 tons shipped during May. For the first half of 1960, total shipments came to 439,985 tons against 477,850 tons in the like 1959, period, a decrease of 38,865 tons.

At the end of June, stocks of zinc held by producers came to 187,686 tons, an increase of 22,648 tons from the 165,038 tons carried at the close of May and the highest figure since October, 1959, when they totaled 191,251 tons. In the three months since the end of March, 1960, stocks have climbed 51,220 tons. At the close of June, 1959, they stood at 169,386 tons.

No Improvement in Lead

The demand for lead has shown no improvement. However, producers had anticipated a small volume of business this month because so many of their customers are operating at a greatly reduced rate due to vacations. They anticipate a better demand in August and feel confident that the lead business will be good during the fourth quarter. The lead price is holding steady at 12.00c New York and at 11.80c St. Louis.

Aluminum Demand Light

Aluminum demand also remain light. In a move to adjust inventories, Kaiser Aluminum closed another potline at its Mead, Washington, reduction plant, leaving five of eight in production. Out of a corporation annual primary aluminum capacity of 609,500 tons, current production is at a rate of 82 per cent or 502,000 tons.

Some of the domestic primary producers of extrusion billets, in an effort to compete with the secondary smelters and with importers, have been taking in scrap on a toll basis, the ratio being 1 pound of scrap to 4½ pounds of billets to be bought by the supplier of the scrap.

As a result of the keen competition, the ratio was lowered to 1 pound of scrap and 1½ pounds of billets.

The large Canadian producer, having no secondary smelting facilities in the United States, is reported to be offering extruded billets at 27.00c a pound, with the buyer not being required to supply any scrap. The new price is retroactive to July 1 and will apply to business booked in August. Some primary domestic producers are understood to be meeting the new price.

Tin Prices Skyrocket

Tin prices suddenly ignited during the month and skyrocketed from 101.375c a pound for Spot Straits tin at New York during the last report in this space to 104.75 cents on June 22 following the uptrend in Singapore and London. The sharp advance was attributed by the Financial Times of London to several factors among which are: a strong demand in Singapore including a large order from a single U.S. consumer; good Continental demand; the situation in the Congo and principally to the conviction that the statistical position of the metal is becoming strong. It had been estimated that the probable 1960 surplus would be 16,000 tons but this has been revised, say the Times, to about 4,000 tons. The publication adds that the position is complicated by the fact that the outlook for production in several of the main producing countries is rather uncertain.

United States Duties on Principal Ore and Metal Imports

(Including Revisions in Effect June 30, 1957, Under Geneva Agreements)

(Quantities Are in Pounds Unless Otherwise Stated; n.s.p.f. Stands for "Not Specially Provided For.")

COPPER

NOTE — The excise tax of 4c a pound on copper (which was reduced to 2c a pound by the Geneva Trade Agreement) was suspended in April, 1947, until March 31, 1949, and on expiration it was further suspended until June 30, 1950. The tax was reimposed on July 1, 1950. It was suspended again on May 22, 1951, retroactive to April 1, 1951, and until February 15, 1953, and again until June 30, 1954. Suspension further extended to June 30, 1955, and again until June 30, 1958. The tax was restored July 1, 1958. The 1956 Geneva Agreement provided for 5% reductions effective on June 30 of 1956, 1957 and 1958, provided the prices were above 24c; if the price is below 24c the 2c tax will prevail.

Copper ore and concentrates, usable as flux, etc., having a copper content of not more than 15% and in an aggregate amount not to exceed in any one year 15,000 tons of copper content	free
Copper ore and concentrates, product of Cuba, copper content	**free**
Copper ore and concentrates, product of Philippines, copper content	0.17c lb.
Copper ore and concentrates, copper content	1.70c lb.
Regulus, black, or coarse copper, and cement copper, copper content	1.70c lb.
Unrefined black, blister, and converter copper in pigs or converter bars, copper content	1.70c lb.
Refined copper in ingots, plates or bars, copper content	1.70c lb.
Copper rolls, rods or sheets	1¼c lb. (plus 1.70c lb. ††)
Copper seamless tubes and tubing	3½c lb. (plus 1.70c lb. ††)
Copper plain wire	12½% (plus 1.70c lb. ††)
Copper brazed tubes†	**4.50c lb. (plus 1.70c lb. ††)**
Old and scrap copper, fit only for remanufacture: and scale and clippings, copper content	1.70c lb.

†† Copper content.

BRASS

Brass rods, sheets, plates, bars, strips, Muntz or yellow metal sheets, sheathing, bolts, piston rods, shafting and bronze rods, tubes and sheets	2c lb.
Brass tubes and tubing, seamless	2c lb.
Brass tubes, brazed, angles and channels	6c lb.
Brass and bronze wire	12½%

LEAD

NOTE — Import duties on lead-bearing ores, flue dust, and mattes of all kinds, lead bullion or base bullion, lead in pigs and bars, lead dross, reclaimed lead and antimonial lead were suspended February 12, 1952, and reimposed on June 26, 1952. Lead scrap duty was reimposed July 1, 1952.

Lead-bearing ores and mattes, n. s. p. f., lead content	¾c lb.
Bullion or base bullion, lead content	1 1/16c lb.
Pigs and bars, lead content	1 1/16c lb.
Reclaimed, scrap, dross, lead content	1 1/16c lb.
Babbitt metal and solder, lead content	1 1/16c lb.
Pipe, sheets, shot, glaziers' lead, and wire	1 5/16c lb.
Type metal and antimonial lead, lead content	1 1/16c lb.
White lead	1.05c lb.
Litharge	1¼c lb.
Red lead	15/16c lb.
Orange mineral	1c lb.

ZINC

NOTE — Import duties on zinc-bearing ores, and on zinc in blocks, pigs and slabs were suspended February 12, 1952, and reimposed on July 24, 1952. Tax on old zinc and dross and skimmings reimposed July 1, 1953.

Zinc-bearing ores, except pyrites containing not more than 3% zinc, zinc content	6/10c lb.
Zinc contained in zinc-bearing ores, n. e. s., not recoverable, zinc content	6/10c lb.
Zinc, old and worn out, fit only for remanufacture	¾c lb.
Dross and skimmings	**¾c lb.**
Zinc in blocks, pigs or slabs	**7/10c lb.**
Zinc in sheets	**1c lb.**
Zinc sheets, plated with nickel or other base metal, or solutions	**1⅛c lb.**
Zinc dust	7/10c lb.
Zinc die-casting alloys	12½%
Zinc oxide and leaded zinc oxides containing not more than 25% lead, dry	3/5c lb.
ground in or mixed with oil or water	1c lb.

MISCELLANEOUS METALS AND ORES

Aluminum, metal and alloys, crude, except **alloys elsewhere provided for†**	**1.25c lb.**
Aluminum scrap	free
Aluminum plates, sheets, bars, rods, circles, **squares, etc.†**	**2.50c lb.**
Antimony ore, antimony content	free
Antimony metal and regulus	2c lb.
Antimony needle or liquidated	¼c lb
Antimony oxide	1c lb
Antimony sulphides	½c lb. & 12½%
Arsenic, metallic†	**2.50c lb.**
Arsenious acid or white arsenic	free
Bauxite, crude*	free
Bauxite, refined**	¼c lb
Bismuth	17½%
Bismuth salts and compounds	35%
Beryllium metal†	**21%**
Beryllium ore	free
Cadmium	3¾c lb.
Cadmium flue dust, cadmium content	free
Chrome ore or chromite	free
Chrome or chromium metal†	**10½%**
Cobalt metal	free
Cobalt ore and concentrates, cobalt content	free
Magnesium, metallic†	**50%**
Magnesium powder, sheets, wire†	**17c lb. & 8½%**
Magnesium alloys	**20c lb. & 10%**
Magnesium scrap	free
Manganese ores, containing over 10% manganese, manganese content	¼c lb., except Cuba, free
Molybdenum ore or concentrates, molybdenum **content†**	**30c lb.**
Nickel ore, matte and oxide	free
Nickel and alloys, nickel chief value, n. s. p. f., in pigs, ingots, shot, cubes, grains, cathodes, or similar forms	1¼c lb.
Nickel, bars, rods, plates, sheets, castings, strips, wire or electrodes	12½%
Nickel scrap	free
Nickel tubes, tubing (if cold rolled, drawn or worked — 2½% extra)	6¼%
Platinum, grain, nuggets, sponge and scrap, oz. troy	free
Platinum in ingots, bars, sheets, or plates, not less than ⅛ in. thick, oz. troy	free
Platinum, ores, platinum content, oz. troy	free
Quicksilver or mercury	25c lb.
Selenium and salts	free
Tantalum	12½%
Tin ore, cassiterite, and black oxide of tin, tin content	free
Tin in bars, blocks, pigs, grain, granulated, and scrap, and alloys, chief value tin, n. s. p. f.	free
Tungsten ore or concentrates, tungsten content	50c lb.

*Crude bauxite import duty suspended through July 15, 1960. **Under Public Law 25 alumina imported for use in aluminum production is free for entries from July 17, 1956 through July 15, 1960. †Tariff reduced 5% on June 30, 1958, under Geneva Agreement which expires on June 30, 1959.

Daily Metal Quotations for June, 1960

The following quotations are taken from the Daily Metal Reporter*

(In Cents Per Pound)

JUNE	Copper					Tin		Lead		Zinc					Aluminum	Antimony	Silver
	Producers' Price Delivered	Custom Smelters' Price, Del.	Electro f. o. b. Refinery	Lake Del.	Aver. Prompt Electrolytic Export Price f.a.s. N. Y.	Straits New York Spot	Straits New York Prompt	New York	Outside St. Louis	Prime West. f. o. b. E. St. Louis	Prime West. Del. N. Y.	Brass Spec. f. o. b. E. St. Louis	High Grade Delivered	Spec. High Grade Delivered	30-Lb. Ingot 99½% Plus f. o. b.	Domestic Spot 99.5% f.o.b. Laredo	(Cents Per Ounce) New York
1	33.00	33.00	32.60	33.00	31.25	100.25	100.25	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
2	33.00	33.00	32.60	33.00	31.25	100.625	100.50	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
3	33.00	33.00	32.60	33.00	31.25	100.875	100.75	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
6	33.00	33.00	32.60	33.00	31.25	100.00	101.00	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
7	33.00	33.00	32.60	33.00	31.25	101.00	100.875	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
8	33.00	33.00	32.60	33.00	31.25	101.00	100.875	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
9	33.00	33.00	32.60	33.00	31.25	101.375	101.25	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
10	33.00	33.00	32.60	33.00	30.625	101.625	101.50	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
13	33.00	33.00	32.60	33.00	30.625	101.25	101.125	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
14	33.00	33.00	32.60	33.00	30.625	101.25	101.125	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
15	33.00	33.00	32.60	33.00	30.625	101.25	101.25	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
16	33.00	33.00	32.60	33.00	30.625	101.375	101.375	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
17	33.00	33.00	32.60	33.00	30.625	101.625	101.625	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
20	33.00	33.00	32.60	33.00	30.625	101.50	101.50	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
21	33.00	33.00	32.60	33.00	30.625	101.625	101.625	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
22	33.00	33.00	32.60	33.00	31.375	101.75	101.75	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
23	33.00	33.00	32.60	33.00	31.375	101.75	101.75	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
24	33.00	33.00	32.60	33.00	31.375	101.75	101.75	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
27	33.00	33.00	32.60	33.00	31.00	101.75	101.625	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
28	33.00	33.00	32.60	33.00	31.00	101.75	101.625	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
29	33.00	33.00	32.60	33.00	31.00	101.875	101.75	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
30	33.00	33.00	32.60	33.00	31.00	102.25	102.125	12.00	11.80	13.00	13.50	13.25	14.50	14.75	28.10	29.00	91.375
AV.	**33.00**	**33.00**	**32.60**	**33.00**	**30.944**	**101.377**	**101.318**	**12.00**	**11.80**	**13.00**	**13.50**	**13.25**	**14.50**	**14.75**	**28.10**	**29.00**	**91.375**
HI.	**33.00**	**33.00**	**32.60**	**33.00**	**31.50**	**102.25**	**102.125**	**12.00**	**11.80**	**13.00**	**13.50**	**13.25**	**14.50**	**14.75**	**28.10**	**29.00**	**91.375**
LO.	**33.00**	**33.00**	**32.60**	**33.00**	**30.50**	**100.25**	**100.25**	**12.00**	**11.80**	**13.00**	**13.50**	**13.25**	**14.50**	**14.75**	**28.10**	**29.00**	**91.375**

* When split quotations prevail the daily average price is listed. The highs and lows for the month take into consideration the levels reached at both sides of such ranges.

Copper Statistics Reported by Copper Institute

Combined Totals in U. S. A. and Outside U. S. A.

(In tons of 2,000 pounds)

	Crude Production		Refined	Deliveries to	Refined Stock	Stock Increases or Decreases		
	Primary	Secondary	Production	Customers	End of Period	Blister	Refined	Total
1957								
Total	**2,897,719**	**123,270**	**3,035,588**	**2,853,307**	**458,340**	**—14,599**	**+103,920**	**+89,321**
1958								
Total	2,713,412	138,696	2,811,108	2,918,404	262,544	+41,000	—195,796	—154,796
1959								
September	**186,837**	**7,652**	**187,294**	**232,282**	**354,926**	**+ 7,195**	**—23,723**	**—16,528**
				(Oct. 1)	356,614			
October	184,409	10,955	181,707	210,945	330,438	+13,657	—26,176	—12,519
November	192,353	10,631	186,496	229,281	311,049	+16,388	—19,389	— 3,001
December	211,575	9,767	203,614	238,095	293,006	+17,728	—18,043	— 315
Total	2,860,454	134,583	2,926,657	2,973,026	293,006	+68,380	+28,774	+97,154
1960								
January**	259,779	13,116	257,614	272,040	304,038	+15,278	— 3,426	+11,852
February	271,765	14,578	269,952	280,656	302,351	+16,391	— 1,687	+14,704
March	307,064	12,198	303,503	307,572	300,790	+15,759	— 1,561	+14,198
April	302,268	17,477	326,403	319,037	309,357	— 6,658	+ 8,567	+ 1,909
May	301,070	17,248	323,167	321,783	312,666	— 4,849	+ 3,309	— 1,540
June	305,565	16,786	329,724	304,300	340,072	— 7,373	+27,406	+20,033

In U. S. A.

1957								
Total	**1,116,380**	**112,060**	**1,616,964**	**1,277,946**	**181,024**	.....	**+60,379**	.....
1958								
Total	1,008,170	131,294	1,446,540	1,179,416	80,722	.....	—100,302	.....
1959								
September	**19,503**	**6,578**	**44,468**	**92,501**	**79,826**	.....	**—14,283**	.....
				(Oct. 1)	81,514			
October	20,931	9,861	44,218	68,648	78,308	.....	— 3,206	.....
November	18,351	9,710	37,299	83,626	74,642	.....	— 3,666	.....
December	26,686	8,595	46,302	90,039	64,763	.....	— 9,879	.....
Total	805,875	121,462	1,221,612	1,312,328	64,763	.....	—17,647	.....
1960								
January	65,677	10,707	86,491	102,829	68,550	.....	+ 3,787	.....
February	85,899	12,628	105,417	111,851	64,007	.....	— 4,543	.....
March	107,514	9,166	131,308	126,776	61,598	.....	— 2,409	.....
April	104,895	14,765	153,053	129,663	63,373	.....	+ 1,775	.....
May	104,272	13,857	147,050	108,266	65,328	.....	+ 1,995	.....
June	98,344	13,585	161,073	106,207	87,667	.....	+22,339	.....

Outside U. S. A.*

1957								
Total	**1,781,339**	**11,210**	**1,418,624**	**1,575,361**	**277,316**	.....	**+43,541**	.....
1958								
Total	1,705,242	7,402	1,364,568	1,738,988	181,822	.....	—95,494	.....
1959								
September	167,334	1,074	142,646	139,781	**275,100**	.....	**— 9,440**	.....
October	163,478	1,093	137,489	142,297	252,130	.....	—22,970	.....
November	173,902	921	149,197	145,655	236,407	.....	—15,723	.....
December	184,889	1,172	157,312	148,056	228,243	.....	— 8,164	.....
Total	2,054,579	13,121	1,705,045	1,660,698	228,243	.....	+46,421	.....
1960								
January**	194,099	2,409	171,123	169,211	235,488	.....	— 7,213	.....
February	185,866	1,950	164,535	168,805	238,344	.....	+ 2,856	.....
March	199,550	3,023	172,145	180,796	239,192	.....	+ 848	.....
April	197,373	2,712	173,350	189,374	245,984	.....	+ 6792	.....
May	196,798	3,391	176,117	213,517	247,338	.....	+ 1,354	.....
June	207,221	3,201	168,651	198,093	252,405	.....	+ 5,067	.....

* Excludes production of Russia, Japan, Yugoslavia, Norway, Sweden, Finland, the Messina Mine in Transvaal and output of several other small producing countries from which reports are not available. Represents approximately 90 per cent of Free World.

** Starting with January, 1960, figures include production from Australia and additional production from Europe.

Electrolytic Copper

Producers' Price, Del. Valley
Monthly Average Prices
(Cents Per Pound)

	1957	1958	1959	1960
Jan.	36.00	25.69	29.00	33.00
Feb.	33.318	25.00	29.972	33.00
Mar.	32.00	25.00	31.14	33.00
Apr.	32.00	25.00	31.50	33.00
May	32.00	25.00	31.50	33.00
June	30.955	25.36	31.50	33.00
July	29.25	26.125	30.587	...
Aug.	28.639	26.50	30.00	...
Sept.	27.031	26.50	30.571	...
Oct.	27.00	27.548	30.75	...
Nov.	27.00	29.00	32.375	...
Dec.	27.00	29.00	33.00	...
Aver.	**30.183**	**26.31**	**30.991**	...

Electrolytic Copper

Custom Smelters' Price, Del. Valley
Monthly Average Prices
(Cents Per Pound)

	1957	1958	1959	1960
Jan.	34.87	24.577	29.429	35.00
Feb.	32.273	23.557	30.361	35.00
Mar.	30.952	23.326	33.31	33.609
Apr.	31.24	23.66	32.84	33.00
May	30.163	23.865	32.00	33.00
June	29.60	25.52	31.477	33.00
July	28.39	29.231	29.52	...
Aug.	27.862	26.52	30.056	...
Sept.	25.948	26.355	33.00	...
Oct.	25.722	28.577	33.00	...
Nov.	25.435	29.829	Nom.	...
Dec.	25.26	28.846	35.00	...
Aver.	**28.93**	**25.905**	**31.808**	...

Lake Copper

Producers' Price Delivered
Monthly Average Prices
(Cents Per Pound)

	1957	1958	1959	1960
Jan.	36.00	25.69	29.00	33.00
Feb.	33.182	25.00	30.00	33.00
Mar.	32.00	25.00	31.14	33.00
Apr.	32.00	25.00	31.50	33.00
May	32.00	25.00	31.50	33.00
June	30.955	25.00	31.50	33.00
July	29.25	25.75	30.587	...
Aug.	28.611	26.50	30.00	...
Sept.	27.00	26.50	31.107	...
Oct.	27.00	27.577	31.50	...
Nov.	27.00	29.00	32.833	...
Dec.	27.00	29.00	33.00	...
Aver.	**30.162**	**26.251**	**31.222**	...

Fabricators' Copper Statistics

(In tons of 2,000 pounds)

	Fabricators' Stocks of Refined Cop.	Unfilled Purchases of Refined by Fab. from Producers	Fabricators' Working Stocks	Unfilled Sales by Fabricators to Customers	Actual Copper Consmd. by Fabricators	Excess Fabricators' Stocks Over Orders Bkd.
1954						
Total	360,526	58,125	304,619	136,581	1,231,840	— 22,549
1955						
Total	.....	.....	.....	.....	1,418,241	.....
1956						
Total	.....	.....	.....	.....	1,416,378	.....
1957						
Aug.	429,627	82,768	344,315	144,375	110,323	+ 23,826
Sept.	425,168	80,436	344,530	144,538	106,927	+ 16,536
Oct.	420,130	80,774	341,869	138,420	119,161	+ 20,615
Nov.	428,520	68,249	345,832	128,719	98,725	+ 22,218
Dec.	430,171	75,627	347,465	138,631	83,067	+ 19,702
Total	.....	.....	.....	.....	1,279,086	.....
1958						
Jan.	445,514	57,917	348,426	123,756	94,642	+ 31,249
Feb.	452,673	52,342	351,035	128,330	86,625	+ 25,650
Mar.	448,125	71,693	346,875	141,387	83,694	+ 31,556
Apr.	450,442	76,602	347,607	145,623	79,613	+ 33,814
May	441,001	78,194	346,404	138,190	88,447	+ 34,601
June	433,526	72,383	330,301	145,162	109,011	+ 30,448
July	431,796	77,362	326,263	153,529	79,353	+ 29,366
Aug.	421,931	78,194	323,667	150,436	96,717	+ 26,022
Sept.	416,887	71,025	319,281	145,390	105,474	+ 28,941
Oct.	399,113	91,019	315,929	156,692	138,017	+ 17,511
Nov.	419,914	88,580	328,238	157,799	110,487	+ 22,457
Dec.	447,123	90,401	326,438	177,869	92,573	+ 35,217
Total	....	....	....	....	1,165,364	....
1959						
Jan.	457,387	101,182	337,761	172,698	108,556	+ 44,070
Feb.	459,046	123,321	390,522	183,113	116,565	+ 58,732
Mar.	449,441	130,785	334,904	211,547	133,259	+ 33,775
Apr.	463,582	125,250	337,282	204,618	120,680	+ 46,932
May	474,657	133,694	338,835	210,424	124,060	+ 59,092
June	492,072	111,229	343,585	191,875	133,702	+ 67,841
July	518,699	110,367	357,474	193,338	81,500	+ 68,254
Aug.	487,259	97,786	359,049	191,476	121,563	+ 34,520
Sept.	462,880	111,675	360,760	206,254	116,880	+ 7,541
Oct.	431,612	119,806	347,136	211,359	100,302	— 7,077
Nov.	412,401	127,162	338,856	224,442	102,837	— 23,735
Dec.	414,757	130,324	340,349	202,775	88,706	+ 1,957
Total	....	....	....	....	1,347,610	....
1960						
Jan.	414,652	141,860	340,233	193,300	102,295	+ 22,979
Feb.	423,131	132,696	343,196	165,991	103,072	+ 46,640
Mar.	441,026	119,963	348,081	134,461	108,881	+ 78,447
Apr.	457,070	99,814	357,711	111,062	113,619	+ 88,111
May	457,644	85,491	360,770	117,150	107,838	+ 65,215
June	451,982	90,527	364,301	132,070	112,223	+ 46,138

Scrap Copper Receipts by Custom Smelters and Refineries in United States*

(In Short Tons)

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Jan.	6,640	4,528	6,486	9,859	11,047	14,322	17,506	16,024	14,511	15,165
Feb.	5,153	3,633	10,337	8,490	15,198	14,497	11,145	9,518	14,712	14,614
Mar. ...	7,912	5,243	19,991	9,738	12,198	15,921	13,934	11,783	19,522	11,675
Apr.	8,553	6,214	16,583	9,004	13,162	17,233	14,288	15,279	17,525	17,543
May	8,458	8,033	10,857	8,687	15,133	20,805	12,397	13,989	13,960	16,497
June ...	8,628	4,425	10,945	13,309	14,765	14,758	11,949	13,945	15,065	15,769
July	6,642	5,188	9,063	10,260	9,988	12,632	8,926	12,185	11,144	....
Aug.	6,113	5,003	7,137	10,100	12,197	12,510	11,645	11,896	7,468	....
Sept. ...	3,561	4,667	9,042	10,641	15,037	9,518	9,756	9,268	10,070	....
Oct.	3,336	4,602	10,065	11,662	12,897	15,570	13,151	23,088	12,860	....
Nov.	3,179	4,724	7,815	10,879	9,865	11,369	11,146	16,425	11,773	....
Dec.	4,538	6,208	11,476	14,876	13,180	14,613	11,237	10,796	10,894	....
Total ..	71,812	62,470	129,798	127,449	154,714	173,748	147,080	164,196	159,507	....

* As compiled by Copper Institute.

Brass and Bronze Ingot Monthly Shipments

(NET TONS)

The following figures showing the combined shipments of ingot brass and bronze are compiled by the Ingot Brass and Bronze Industry and represent in excess of 95 per cent of the deliveries of the entire industry.

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Jan.	18,874	28,416	28,315	23,423	20,661	25,201	27,736	25,681	20,468	22,046	22,695
Feb.	18,487	27,168	24,211	25,429	19,920	25,349	24,949	20,769	17,413	23,746	23,129
Mar.	22,494	31,997	23,890	28,256	23,653	29,713	28,310	21,948	18,825	26,109	23,232
Apr.	22,118	30,473	22,547	25,044	24,746	27,641	25,808	23,507	18,009	26,115	20,413
June	25,093	33,817	21,274	20,818	22,348	23,141	18,842	18,888	17,962	22,922	19,625
July	21,609	32,016	18,947	19,321	17,074	18,513	17,364	16,695	16,658	20,346	....
Aug.	29,689	25,285	21,807	20,156	21,684	27,013	23,812	19,654	17,882	21,741	....
Sept.	28,811	22,285	22,770	21,463	22,464	26,349	20,929	19,670	20,540	22,685	....
Oct.	32,240	23,124	25,811	22,280	24,080	25,228	23,045	22,800	23,225	23,067	....
Nov.	31,748	23,544	23,441	21,806	23,061	25,102	21,818	19,767	20,758	22,283	....
Dec.	28,575	20,987	22,983	20,541	21,274	21,448	18,046	16,875	18,676	19,535	....
Total	303,563	332,378	277,736	271,251	263,233	298,406	274,096	248,297	227,607	274,562	....
Aver.	25,297	27,615	23,145	22,694	21,936	24,867	22,841	20,681	18,133	22,864	....

Mine Production of Copper in United States

(U. S. Bureau of Mines)

(In short tons)

	Eastern	Missouri	Western	Total
1957				
Ttl.	79,369	1,800	995,753	1,076,922
1958				
Dec.	6,614	70	88,070	94,514
Ttl.	76,849	1,250	902,021	980,304
1959				
Jan.	6,590	126	90,351	97,067
Feb.	5,883	130	81,849	87,862
Mar.	6,513	140	91,681	98,334
Apr.	7,240	150	93,209	100,599
May	7,007	110	94,493	101,610
June	7,245	124	87,035	94,404
July	6,763	111	80,058	86,932
Aug.	6,813	116	47,910	54,839
Sept.	6,655	123	20,342	27,120
Oct.	7,092	152	22,669	29,913
Nov.	3,226	140	22,529	25,895
Dec.	3,228	128	22,504	25,860
Ttl.	74,255	1,550	754,630	830,435
1960				
Jan.	3,904	107	43,845	47,856
Feb.	3,819	114	71,257	75,190
Mar.	7,229	96	88,931	96,256
Apr.	7,149	97	90,288	97,534
May	7,130	77	90,180	97,387

Average Custom Smelters' Scrap Buying Prices

(Cents per pound for carload lots del. consumers' works)

	No. 1 Copper Scrap	No. 2 Copper Scrap	Light Copper Scrap	Refinery Brass*
1958				
Aver	**21.788**	**20.282**	**18.035**	**18.047**
1959				
May	27.81	26.31	24.06	25.81
June	26.80	25.30	23.05	24.80
July	25.14	23.64	21.39	23.14
Aug.	25.762	24.762	22.012	23.762
Sept.	26.369	24.869	22.319	24.369
Oct.	27.929	25.405	23.155	24.905
Nov.	30.00	26.208	23.958	24.528
Dec.	29.50	25.993	23.743	24.239
Av.	27.321	25.377	23.102	24.774
1960				
Jan.	30.025	26.30	24.05	24.55
Feb.	29.868	25.75	23.50	24.00
Mar.	27.207	24.038	21.788	22.071
Apr.	27.063	24.256	22.006	22.256
May	26.548	24.369	22.119	22.368
June	26.557	24.455	22.205	22.455

*Of dry content for material having a dry copper content in excess of 60%.

Brass Ingot Makers' Scrap Copper Buying Prices

(Average Prices)

(Cents per pound del. refinery for 60,000 lbs. of each grade)

	No. 1 Copper Scrap	No. 2 Copper Scrap	No. 1 Composition	Heavy Yellow Brass
1958				
Aver.	**21.777**	**20.277**	**18.653**	**13.024**
1959				
May	27.81	26.31	21.17	15.17
June	26.80	25.30	21.159	15.307
July	25.14	23.64	20.13	14.47
Aug.	25.762	24.262	21.286	14.81
Sept.	26.369	24.869	22.304	16.50
Oct.	27.595	25.405	22.19	16.048
Nov.	29.00	26.208	22.75	16.326
Dec.	28.50	25.993	22.50	16.00
Av.	27.120	25.377	21.567	15.52
1960				
Jan.	29.025	26.30	22.74	16.39
Feb.	28.408	25.75	22.00	16.00
Mar.	27.321	24.038	20.429	15.174
Apr.	27.063	24.256	20.613	15.15
May	26.548	24.369	20.613	15.083
June	26.715	24.455	20.25	15.193

Lead Statistics Reported by American Bureau of Metal Statistics

Lead Refineries in U. S. A. and Outside U. S. A.

(Recoverable Lead Content in Tons of 2,000 Pounds)

Combined U. S. A. and Outside U. S. A.

	REFINED PRODUCTION			DELIVERIES			STOCKS		
1958	Pig	Antimonial Lead Content	Total	Pig	Antimonial Lead Content	Total	Pig	Antimonial Lead Content	Total
Total ..	1,485,282	106,383	1,591,665	1,307,390	102,697	1,410,087	.....	.....	.....
1959									
Nov. ..	110,295	9,330	119,625	117,420	8,885	126,305	269,477	16,174	285,651
Dec. ..	121,374	8,444	129,818	118,582	4,107	122,689	272,269	20,511	292,780
Total ..	1,406,485	105,943	1,512,418	1,422,985	106,666	1,529,651	.....	.....	.....
1960									
Jan. ..	131,753	9,395	141,148	124,705	7,413	132,118	*281,530	*20,280	301,810
Feb. ..	127,595	8,977	136,572	121,803	9,539	131,342	287,322	19,719	307,041
Mar. ..	128,203	8,490	136,693	122,013	8,327	130,340	293,512	19,882	313,394
Apr. ..	137,979	7,574	145,553	107,128	7,691	114,819	324,400	19,765	344,165
May ..	130,426	11,126	141,552	125,126	8,556	133,682	329,700	22,335	352,035

U. S. A.

1958									
Total ..	473,208	46,985	520,193	589,528	49,893	639,421	.....	.....	.....
1959									
Nov. ..	17,785	854	18,639	42,000	2,038	44,038	158,009	7,602	165,611
Dec. ..	27,969	2,052	30,021	41,502	1,745	39,757	154,307	11,552	165,859
Total ..	343,726	34,628	378,354	596,214	42,312	638,526	.....	.....	.....
1960									
Jan. ..	37,497	2,414	39,911	49,498	2,304	51,802	156,215	12,257	168,472
Feb. ..	33,742	2,570	36,312	56,569	2,659	59,228	152,299	12,464	164,763
Mar. ..	35,018	2,070	37,088	40,536	2,289	42,825	158,023	12,399	170,422
Apr. ..	37,465	2,186	39,651	36,572	2,267	38,839	164,875	12,514	177,389
May ..	33,474	3,296	36,770	47,433	2,664	50,097	170,208	13,426	183,634

Outside U. S. A.

1958									
Total ..	1,012,074	59,398	1,071,472	717,862	52,804	710,666	.....	.....	.....
1959									
Nov. ..	92,510	8,476	100,986	75,420	6,847	82,267	111,468	8,572	120,040
Dec. ..	93,405	6,392	99,797	77,080	5,852	82,932	117,962	8,959	126,921
Total ..	1,062,759	71,315	1,134,074	826,771	64,453	891,125	.....	....	.....
1960									
Jan. ..	94,256	6,981	101,237	75,207	5,109	80,316	*125,315	*8,023	133,338
Feb. ..	93,853	6,407	100,260	65,234	6,880	72,114	135,023	7,255	142,278
Mar. ..	93,185	6,420	99,605	81,477	6,038	87,515	135,489	7,483	142,972
Apr. ..	100,514	5,388	105,902	70,556	5,424	75,980	159,525	7,251	166,776
May ..	96,952	7,830	104,782	77,693	5,892	83,585	159,492	8,909	168,401

* Stocks on Jan. 1, 1960 are not comparable to those reported for Dec. 31, 1959 due to changes in the basis by reporting areas.

Summary of Lead Statistics for United States

Recoverable Lead Content In Tons of 2000 Pounds	Raw Material at Smelter	Stocks (end of period) — Base Bullion — At Smelter & Transit	At Refinery and Process	Refined Pig and Antimonial	Total	Smelter Receipts — Primary Origin — U.S.A.	Outside U.S.A.	Scrap	Total
1958									
December ..	68,197	4,489	28,955	252,466	354,107	25,544	18,921	4,090	43,555
Total	....	....	....	.....	.....	297,687	191,415	29,080	518,182
1959									
October ...	66,942	7,285	24,758	176,119	275,194	15,837	4,959	1,049	21,845
November ..	70,376	3,617	27,335	165,611	266,939	13,956	5,599	649	20,204
December ..	70,036	4,594	35,288	165,859	275,777	20,125	10,013	2,621	32,759
Total	.....	....	.....	.....	.....	244,803	125,100	20,596	389,999
1960									
January ...	78,131	4,003	37,013	168,472	287,619	21,094	26,442	1,900	49,436
February ...	86,087	2,680	36,748	164,763	290,278	24,719	15,822	2,136	42,677
March	93,108	5,029	36,866	170,422	305,425	29,979	17,105	2,128	49,212
April	89,421	3,639	39,950	177,389	310,399	27,863	9,264	2,207	39,334
May	98,470	4,402	36,979	183,634	323,485	22,537	17,959	2,048	42,544

1958	Smelter Production	Refined Productions — Pig	Antimonial	Total	Deliveries to U. S. Fabricators including imports from — Pig	U. S. sources reporting to ABMS — Antimonial	Total
Total	512,323	473,208	46,985	520,193	589,528	49,893	639,421
1959							
September	13,995	14,699	88	14,787	37,310	543	37,853
October	16,315	18,096	697	18,793	35,110	2,290	37,400
November	16,770	17,785	854	18,639	42,000	2,038	44,038
December	32,676	27,969	2,052	30,021	41,507	1,745	39,757
Total	381,656	343,726	34,628	378,354	596,214	42,312	638,526
1960							
January	40,593	37,497	2,414	39,911	49,498	2,304	51,802
February	34,326	33,742	2,570	36,312	56,569	2,659	59,228
March	41,673	35,018	2,070	37,088	40,536	2,289	42,825
April	42,436	37,465	2,186	39,651	36,572	2,267	38,839
May	33,106	33,474	3,296	36,770	47,433	2,264	50,097

United States Lead Statistics of Primary Refineries

(American Bureau of Metal Statistics)
(In tons of 2,000 lbs.)

	Stock At Beginning	Production Primary & Secondary	Total Supply	Stock At End	Domestic Shipments
1954	81,152	551,618	632,770	92,719	475,551
1955	28,855	547,153	639,872	31,089	531,339
1956	.....	613,293	644,382	.....	529,484
1957	.....	604,353	645,534	.....	463,060
1958					
October	170,666	45,467	216,133	169,435	46,647
November	169,435	40,485	209,920	179,321	30,591
December	179,321	44,042	223,363	198,538	24,852
Total	....	522,956	614,554	....	330,359
1959					
January	198,508	43,652	242,160	208,874	33,035
February	208,874	39,498	248,372	214,946	30,685
March	214,946	39,238	254,184	210,524	40,980
April	210,524	40,606	251,130	197,823	52,469
May	197,823	39,101	236,924	171,577	65,207
June	171,577	37,459	209,036	133,235	75,465
July	133,235	32,882	166,117	142,694	22,380
August	142,694	25,589	168,283	124,259	43,850
September	124,259	14,801	139,060	117,296	21,795
October	117,296	18,892	136,188	115,418	20,552
November	115,418	18,796	134,214	114,303	19,869
December	114,303	30,160	144,463	119,993	24,516
Total	....	380,674	579,182	....	450,983
1960					
January	119,993	40,043	160,036	117,589	42,083
February	117,589	36,435	154,024	116,269	37,599
March	116,269	37,192	153,461	109,148	44,076
April	109,148	40,177	149,325	118,329	30,686
May	118,329	36,509	154,838	123,148	31,690

In instances where the figures are not in balance it is due to shipments to other than domestic consumers.

Industrial Classification of Domestic Lead Shipments

(American Bureau of Metal Statistics) (In tons of 2,000 lbs.)

	Cable	Amm.	Foil	Batt'y	Brass Making	Sundries	Jobbers	Unclassified
1955								
Total	72,418	27,599	2,622	88,461	3,960	52,994	13,034	270,251
1956								
Total	80,360	24,501	1,435	70,614	3,158	56,851	13,213	274,716
1957								
Total	58,444	25,452	1,691	64,761	7,420	53,284	11,127	240,881
1958								
Jan.	2,938	550	70	4,775	521	5,173	801	18,594
Feb.	2,899	1,750	70	5,124	90	1,643	888	11,368
Mar.	3,133	1,200	35	4,711	681	3,149	908	15,068
April	3,207	900	70	3,138	580	2,831	533	10,913
May	3,216	1,850	35	4,671	866	3,071	1,027	15,285
June	3,463	1,950	35	2,767	480	4,217	1,716	17,450
July	3,169	1,250	275	3,936	515	4,157	1,052	17,594
Aug.	3,481	2,415	70	4,992	400	6,399	100	16,397
Sept.	4,132	2,290	320	5,775	848	6,771	1,747	19,774
Oct.	3,243	2,450	...	4,548	285	6,210	1,641	28,270
Nov.	3,690	2,150	50	6,527	360	4,887	822	12,105
Dec.	2,267	2,100	50	6,216	215	2,578	652	10,774
Total	38,838	20,855	1,080	57,180	5,841	51,086	11,882	193,592
1959								
Jan.	2,284	2,100	100	5,594	161	3,545	727	18,524
Feb.	2,988	1,225	50	5,254	735	2,706	931	16,796
Mar.	3,156	1,850	105	5,905	378	6,006	2,185	21,395
April	3,686	2,150	35	7,410	691	5,356	1,966	31,355
May	4,054	2,900	35	6,870	475	7,990	2,843	40,040
June	5,272	3,210	70	12,515	180	8,009	3,663	42,546
July	850	295	70	2,570	315	3,166	997	14,117
Aug.	3,268	1,150	205	3,073	410	6,640	1,921	27,183
Sept.	1,003	....	35	3,401	255	2,296	1,484	13,321
Oct.	700	500	35	4,299	228	2,676	1,021	11,093
Nov.	2,630	200	70	3,714	205	2,566	797	9,687
Dec.	2,133	950	70	3,479	475	2,628	738	14,043
Total	32,024	16,530	880	64,084	4,508	53,584	19,273	260,100
1960								
Jan.	2,138	3,352	105	3,268	550	4,786	1,106	26,778
Feb.	2,665	2,350	50	4,930	295	3,715	574	23,020
Mar.	2,221	1,500	...	8,195	1,050	8,298	2,133	20,679
Apr.	2,005	2,707	83	2,891	380	5,180	916	16,519
May	2,327	1,000	35	4,516	115	4,526	927	18,244

Lead Prices at New York

(Common Grade)
Monthly Average Prices
(Cents Per Pound)

	1957	1958	1959	1960
Jan.	16.00	13.00	12.619	12.00
Feb.	16.00	13.00	11.583	12.00
Mar.	16.00	13.00	11.42	12.00
Apr.	16.00	12.00	11.20	12.00
May	15.385	11.712	11.905	12.00
June	14.32	11.24	12.00	12.00
July	14.00	11.00	12.00	...
Aug.	14.00	10.85	12.286	...
Sept.	14.00	10.89	13.00	...
Oct.	13.704	12.673	13.00	...
Nov.	13.50	13.00	13.00	...
Dec.	13.00	13.00	12.523	...
Aver.	14.66	12.114	12.211	...

Lead Sheet Prices

(To Jobbers, Full Sheets)
Monthly Average Prices
(Cents Per Pound)

	1957	1958	1959	1960
Jan.	21.50	18.50	18.119	17.50
Feb.	21.50	18.50	17.083	17.50
Mar.	21.50	18.50	16.92	17.50
Apr.	21.50	17.50	16.70	17.50
May	20.885	17.212	17.405	17.50
June	19.82	16.74	17.50	17.50
July	19.82	16.50	17.50	...
Aug.	19.50	16.35	17.786	...
Sept.	19.50	16.39	18.50	...
Oct.	19.204	18.173	18.50	...
Nov.	19.00	18.50	18.50	...
Dec.	18.50	18.50	18.023	...

Battery Shipments

The following table shows replacement battery shipments in the United States as compiled by the Business Information Division of Dun & Bradstreet, Inc., for the Association of American Battery Manufacturers:

(In thousands of units)

	1957	1958	1959	1960
Jan.	2,638	2,004	2,672	1,866
Feb.	1,961	1,803	1,791	1,641
Mar.	1,254	1,577	1,376	1,877
Apr.	1,178	1,242	1,437	1,545
May	1,605	1,454	1,593	1,650
June	1,878	1,773	2,118	....
July	2,469	2,101	2,556	....
Aug.	2,856	2,333	2,728	....
Sept.	2,688	2,704	2,889	....
Oct.	3,042	2,976	3,069	....
Nov.	2,359	2,262	2,799	....
Dec.	2,015	3,041	2,465	....
Total	25,943	25,270	27,493	....

Lead Stocks at Primary U. S. Smelters and Refiners

(American Bureau of Metal Statistics)
(In tons of 2,000 lbs.)

	In ore and matte and in process at smelteries	—In base bullion (lead content)— At smelteries & refineries	In transit to refineries	In process at refineries	Refined pig lead	Anti-monial lead	Total Stocks
1958							
Mar. 1..	79,588	9,546	3,670	22,834	107,213	12,309	235,250
Apr. 1..	83,185	10,692	2,187	21,766	116,610	12,144	246,584
May 1..	86,053	11,838	2,138	20,524	130,668	12,468	263,689
June 1..	79,482	11,059	2,010	20,188	141,967	13,154	267,860
July 1..	80,060	9,012	1,570	22,092	150,648	12,856	276,238
Aug. 1..	83,347	12,438	860	21,615	154,378	10,482	283,379
Sept. 1.	77,416	14,767	1,176	20,444	158,413	10,889	283,105
Oct. 1..	72,724	14,797	2,223	18,125	159,662	11,004	278,535
Nov. 1..	61,819	11,492	1,086	19,041	157,385	12,050	262,873
Dec. 1..	62,960	11,072	1,565	20,941	167,493	11,828	275,859
1959							
Jan. 1..	72,378	10,917	1,767	19,746	185,913	12,595	303,316
Feb. 1..	72,832	10,565	1,889	21,317	197,085	11,789	315,477
Mar. 1..	62,383	11,707	1,447	21,479	202,835	12,111	311,962
Apr. 1..	68,433	14,352	350	20,575	198,459	12,065	314,234
May 1..	64,538	12,373	624	20,507	184,468	13,355	295,865
June 1..	55,223	12,239	766	20,391	157,981	13,596	260,196
July 1..	58,451	13,270	943	19,468	120,914	12,321	225,367
Aug. 1..	53,115	18,379	158	18,021	129,551	13,143	232,367
Sept. 1.	50,007	17,389	....	15,638	116,344	7,915	207,293
Oct. 1..	61,910	17,925	....	14,932	109,527	7,769	212,063
Nov. 1..	69,429	14,800	...	14,919	107,849	7,569	214,566
Dec. 1..	70,837	12,919	...	15,708	106,678	7,625	213,767
1960							
Jan. 1..	73,381	16,955	3,085	16,914	108,002	11,991	230,328
Feb. 1..	78,315	17,139	1,425	19,003	105,292	12,297	233,471
Mar. 1..	89,656	14,899	1,643	19,360	103,615	12,654	241,827
Apr. 1..	96,716	17,043	867	20,603	96,469	12,679	244,377
May 1..	92,969	16,519	1,581	22,124	105,498	12,831	251,522
June 1..	102,454	12,444	889	24,237	109,270	13,878	263,172

Receipts of Lead in Ore and Scrap

By U. S. Smelters (a)

(American Bureau of Metal Statistics) (In tons of 2,000 lbs.)

	——Receipts of lead in ore—— United States	Foreign	Total	Receipts of lead in scrap etc. (b)	Total receipts in ore, & scrap
1953 Total	351,183	155,788	506,971	42,994	549,965
1954 Total	336,291	158,081	494,372	49,864	544,236
1955 Total	341,595	172,966	514,561	42,996	557,557
1956 Total	368,499	192,318	560,817	55,925	616,792
1957 Total	356,409	206,901	563,310	42,537	605,847
1958					
March	21,735	20,038	41,773	3,154	44,927
April	25,104	15,821	40,925	1,913	42,838
May	27,427	10,228	37,655	1,867	39,522
June	28,577	13,811	42,388	1,366	43,754
July	22,289	19,692	41,891	1,615	43,596
August	22,984	13,043	36,027	1,252	37,279
September	20,654	14,576	35,230	1,765	36,995
October	18,678	9,093	27,771	3,577	31,348
November	24,024	14,541	38,565	3,933	42,498
December	24,366	18,804	43,170	3,982	47,152
Total	285,164	188,144	473,308	30,115	503,423
1959					
January	24,304	19,449	43,753	3,138	46,891
February	22,253	8,660	30,913	1,747	32,660
March	21,897	21,012	42,909	1,328	44,237
April	22,339	10,998	33,337	1,196	34,533
May	21,645	5,202	26,847	1,930	28,777
June	23,634	12,368	36,002	2,431	38,433
July	19,165	11,695	30,860	2,199	33,059
August	19,971	2,821	22,792	1,009	23,801
September	13,591	3,465	17,056	32	17,088
October	14,740	3,648	18,388	133	18,521
November	13,808	4,582	18,390	133	18,523
December	21,208	20,977	42,185	5,269	47,454
Total	238,555	124,877	363,432	20,545	383,977
1960					
January	20,531	26,307	46,838	1,762	48,600
February	23,700	15,541	39,241	2,131	41,372
March	28,824	16,742	45,566	1,838	47,404
April	26,574	9,243	35,817	1,897	37,714
May	21,674	17,847	39,521	2,058	41,579

(a) Receipts of lead in ore are computed on the basis of recoverable lead. Owing to the estimational factor in this, which is probably on the low side, and also to the possibility that some lead receipts may escape attention, these monthly totals probably underrun the actual production of pig lead. (b) inclusive only of scrap smelted in connection with ore, plus some scrap received by primary refiners.

N. Y. Lead Price Changes

(Effective Date)

1951		Apr. 12	14.00
Oct. 2	**19.00	June 2	14.25
1952		June 15	14.00
Apr. 29	18.00	Aug. 25	14.25
May 2	17.00	Sept. 7	14.50
May 12	15.00	Sept. 15	14.75
June 23	15.50	Oct. 4	14.875
June 24	16.00	Oct. 5	15.00
Oct. 7	15.00	1955	
Oct. 14	14.00	Sept. 23	15.00-15.50
Oct. 22	13.50	Sept. 26	15.50
Nov. 3	14.00	Dec. 29	16.00
Nov. 10	14.20	1956	
Nov. 11	14.50	Jan. 4	16.50
Nov. 20	14.25	Jan. 13	16.00
Nov. 24	14.00	1957	
Dec. 22	14.25	May 9	15.50
Dec. 29	14.50	May 16	15.00
Dec. 31	14.75	June 11	14.00
1953		Oct. 14	13.50
Jan. 7	14.50	Dec. 2	13.00
Jan. 12	14.00	1958	
Feb. 2	13.50	Apr. 1	12.00
Mar. 4	13.00	May 14	11.50
Mar. 10	13.50	June 3	11.00
Apr. 7	13.00	June 18	11.50
Apr. 16	12.50	July 1	11.00
Apr. 21	12.00	Aug. 13	10.75
Apr. 29	12.50	Sept. 17	11.00
May 18	12.75	Sept. 30	11.50
May 19	13.00	Oct. 2	12.00
May 26	13.15	Oct. 8	12.50
June 11	13.50	Oct. 14	13.00
July 20	13.75	1959	
July 23	14.00	Jan. 21	12.00
Sept. 16	13.50	Feb. 11	11.50
1954		Feb. 24	11.00
Jan. 18	13.00	Mar. 5	11.50
Feb. 18	12.50	April 1	11.00
Mar. 9	12.75	April 20	11.50
Mar. 10	13.00	May 7	12.00
Mar. 26	13.25	Aug. 24	13.00
Mar. 29	13.50	Dec. 14	12.50
Apr. 1	13.75	Dec. 21	12.00

**OPS Ceiling.

Antimonial Lead Stocks at Primary Refineries

(A.B.M.S.)

(In tons of 2,000 pounds)

End of	1957	1958	1959	1960
Jan.	10,487	12,689	11,789	12,297
Feb.	10,220	12,309	12,111	12,654
Mar.	5,091	3,527	4,098	2,332
Apr.	9,391	12,468	13,355	12,831
May	9,799	13,154	13,596	13,878
June	9,503	12,856	12,321	....
July	8,661	10,482	13,143	....
Aug.	9,553	10,889	7,915	....
Sept.	10,215	11,004	7,769	....
Oct.	11,581	12,050	7,569	....
Nov.	11,119	11,828	7,625	....
Dec.	11,857	12,595	11,991	....

Antimonial Lead Production by Primary Refineries

(A.B.M.S.)

(In tons of 2,000 pounds)

End of	1957	1958	1959	1960
Jan.	5,114	3,743	3,541	2,538
Feb.	5,468	3,657	4,415	2,694
Mar.	9,794	12,144	12,065	12,679
Apr.	6,183	3,655	5,533	2,291
May	6,978	4,827	4,616	3,456
June	4,466	3,992	5,671	....
July	5,372	2,775	2,784	....
Aug.	7,967	5,244	2,185	....
Sept.	7,574	4,761	102	....
Oct.	6,148	5,849	886	....
Nov.	3,791	3,913	1,324	....
Dec.	3,290	4,539	2,656	....
Total	67,541	50,482	37,813	....

Lead Imports and Exports By Principal Countries

(A.B.M.S.)

Reported in pigs, bars, etc.; metric tons except where otherwise noted.

	1960		
	Feb.	Mar.	Apr.
IMPORTS			
U. S.* (s.t.)	15,511	17,727	19,706
Belgium	1,032	...	...
Denmark	405	1,514	1,133
France	6,049	5,948	3,555
Germany, W.‡	4,660	5,721	...
Italy††	1,279	...	...
Netherlands	2,863	2,908	2,118
Norway	417	229	...
Sweden	725	876	704
Switzerland	1,534	1,592	1,062
U. K. (l.t.)	13,052	16,125	22,979
India† (l.t.)	1,658	1,462	1,746
EXPORTS			
U. S.* (s.t.)	5	40	84
Canada (s.t.)	6,692	11,216	5,407
Belgium	4,950	...	...
Denmark	620	480	315
France	767	781	44
Germany, W.‡	2,188	2,227	...
Italy††	2	...	...
Netherlands	477	706	365
Sweden	119	100	91
Northern Rhodesia† (l.t.)	1,376	1,357	634
Australia (l.t.)	11,260	8,933	4,619

† British Bureau of Non-Ferrous Metal Statistics.

* Refined.

‡ Includes scrap.

†† Includes lead alloys.

French Lead Imports

(A. B. M. S.)

(In metric tons)

	1960		
	Mar.	Apr.	May
Ore (gross weight)	30,905	9,576	8,111
Algeria	1,811	1,752	...
Morocco	27,044	7,824	8,111
Other Countries	2,050	...	...
Pig Lead	5,948	3,555	8,454
Peru	...	406	...
Belguim	944	490	...
Germany (W.)	864	795	1,380
Spain	71	...	...
U. Kingdom	1	...	1,086
Algeria	16	2	1
Morocco	2,313	801	3,360
Tunisia	1,739	1,061	2,093
Australia	...	...	280
Other Countries	...	...	254
Antimonial lead	2	...	...

U. K. Lead Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

	1960		
	Mar.	Apr.	May
(Gross Weight)			
Lead and lead alloys	16,125	22,979	13,075
Australia	8,460	14,202	5,616
Canada	4,770	5,397	2,440
Peru	300	824	875
Other countries	2,595	2,556	4,144

IT PAYS
to
ADVERTISE
in the
DAILY METAL REPORTER

U. S. Lead Consumption

(Bureau of Mines — In Short Tons)

Metal Products:	— 1960 — Jan.-Apr. Totals	Mar.	Apr.
Ammunition	14,970	4,104	3,875
Bearing metals	7,669	2,008	1,676
Brass and bronze	7,639	2,097	1,560
Cable covering	21,775	5,798	5,025
Calking lead	21,249	5,000	5,570
Casting metals	2,434	622	535
Collapsible tubes	2,606	752	677
Foil	1,247	215	403
Pipes, traps, & bends	7,642	1,956	1,831
Sheet lead	8,576	2,228	2,153
Solder	20,314	5,430	4,768
Storage battery grids, posts, etc.	56,410	14,833	13,127
Storage battery oxides	57,522	14,303	13,387
Terne metal	794	257	180
Type metal	8,904	2,345	2,150
Total	**239,751**	**61,948**	**56,917**
Pigments:			
White lead	2,411	810	830
Red lead and litharge	27,627	7,095	6,240
Pigment colors	4,041	1,025	1,005
Other*	805	221	233
Total	**34,884**	**9,151**	**8,308**
Chemicals:			
Tetraethyl lead	52,851	15,129	13,059
Misc. chemicals	530	208	245
Total	**53,381**	**15,337**	**13,304**
Miscellaneous uses:			
Annealing	1,696	352	366
Galvanizing	524	111	83
Lead plating	22	2	6
Weights and ballast	2,476	656	721
Total	**4,718**	**1,121**	**1,176**
Other uses unclassified	6,086	1,534	1,670
Total reported†	**338,820**	**89,091**	**81,375**
Estimated unreported consumption	8,000	2,000	2,000
Grand Total†	**346,800**	**91,100**	**83,400**
Daily average‡	**2,866**	**2,939**	**2,780**

*Includes lead content of leaded zinc oxide production.

†Includes lead content of scrap used directly in fabricated products.

‡Based on number of days in month without adjustment for Sundays and holidays.

U. K. Lead Consumption

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 pounds)

	1958	1959	1960
Jan.	29,607	28,872	31,745
Feb.	27,855	25,968	30,241
Mar.	29,713	26,691	35,066
Apr.	26,230	29,252	28,148
May	28,839	27,280	33,459
June	28,624	30,099	...
July	27,201	26,851	...
Aug.	21,726	25,358	...
Sept.	28,829	30,255	...
Oct.	31,356	32,926	...
Nov.	27,786	32,579	...
Dec.	27,154	31,772	...
Total	**335,920**	**345,903**	

American Antimony

Monthly Average Prices
In bulk, f.o.b. Laredo
(Cents per lb. in ton lots)

	1957	1958	1959	1960
Jan.	33.00	33.00	29.00	29.00
Feb.	33.00	30.818	29.00	29.00
Mar.	33.00	29.00	29.00	29.00
Apr.	33.00	29.00	29.00	29.00
May	33.00	29.00	29.00	29.00
June	33.00	29.00	29.00	29.00
July	33.00	29.00	29.00	...
Aug.	33.00	29.00	29.00	...
Sept.	33.00	29.00	29.00	...
Oct.	33.00	29.00	29.00	...
Nov.	33.00	29.00	29.00	...
Dec.	33.00	29.00	29.00	...
Aver.	**33.00**	**29.485**	**29.00**	...

Consumers' Lead Stocks, Receipts and Consumption

(Bureau of Mines — In Short Tons)

	Stocks Mar. 31, 1960	Net Receipts In Apr.	Consumed In Apr.	Stocks Apr. 30, 1960
Soft lead	77,895	54,023	54,681	77,237
Antimonial lead	41,105	20,046	19,070	42,081
Lead in alloys	6,933	3,375	3,209	7,099
Lead in copper-base scrap	764	1,371	1,246	889
Total	126,697	78,815	*78,206	127,306

* Excludes 2,957 tons of lead which went directly from scrap to fabricated products and 212 tons of lead contained in leaded zinc oxide production.

Consumption of Lead by Class of Product

(Bureau of Mines — In Short Tons)

APRIL

	Soft lead	Antimonial lead	Lead in alloys	Lead in copper-base scrap	Total
Metal products	31,249	18,415	3,165	1,246	54,075
Pigments	8,082	14	....	....	8,096
Chemicals	13,304	....	....	....	13,304
Miscellaneous	576	600	....	....	1,176
Unclassified	1,470	41	44	....	1,555
Total	54,681	19,070	3,209	1,246	*78,206

* Excludes 2,957 tons of lead which went directly from scrap to fabricated products and 212 tons of lead contained in leaded zinc oxide production.

Domestic Zinc Statistics

American Zinc Institute

Commencing with January, 1948, all regularly operating U. S. primary and secondary smelters are included in this report. Production from foreign ores also is included.

(Tons of 2,000 lbs.)

	Stock Beginning	Production	Shipments: Domestic	Export & Drawback	Gov't Acc't	Total	Stock at End	Daily Avg. Prod.
1950 Tl.	94,221	910,354	849,246	18,189	128,256	995,691	8,884	2,494
1950 Mo. Avg.		75,863	70,770	1,516	10,688	82,974		
1951 Total	8,884	931,833	836,800	42,067	39,949	918,816	21,901	2,553
1951 Mo. Avg.		77,653	69,733	3,506	3,329	76,568		
1952 Total	21,901	961,430	803,343	56,202	36,626	896,171	87,160	2,627
1952 Mo. Avg.		80,119	66,945	4,683	3,052	74,681		
1953 Total	87,160	971,191	818,850	16,326	42,332	877,508	180,843	2,661
1953 Mo. Avg.		80,933	68,238	1,361	3,528	73,126		
1954 Total	180,843	868,242	787,922	27,929	108,957	924,808	124,277	2,379
1954 Mo. Avg.		72,353	65,660	2,327	9,080	77,067		
1955 Total	40,979	1,031,018	1,007,619	19,497	87,200	1,114,316	40,979	2,825
1955 Mo. Avg.		85,918	83,968	1,625	7,267	92,860		
1956 Total		1,062,954	869,270	9,027	157,014	1,035,311	68,622	2,904
1956 Mo. Avg.		88,850	72,439	752	13,085	86,275		
1957 Total		1,067,450	765,132	15,460	179,466	815,567		
1958								
May	221,171	71,018	51,390	129	....	51,519	240,670	2,291
June	240,670	66,967	54,487	171	....	54,658	252,979	2,232
July	252,979	65,119	60,312	55	....	60,187	257,911	2,101
August	257,911	62,927	68,718	591	....	69,309	251,529	2,030
September	251,529	63,705	76,905	213	....	77,118	238,116	2,124
October	238,116	65,304	93,018	226	....	93,224	210,176	2,107
November	210,176	65,174	83,394	212	....	83,606	191,744	2,172
December	191,744	75,503	76,862	148	....	77,010	190,237	2,432
1958 Total		828,902	767,755	3,102	34,488	805,325	....	....
1959								
January	190,237	76,481	70,770	171	....	70,941	195,777	2,467
February	195,777	71,174	65,641	849	....	66,490	200,461	2,542
March	200,461	79,918	73,814	482	....	74,296	206,083	2,578
April	206,083	76,393	78,358	255	....	78,613	203,863	2,546
May	203,863	77,489	85,073	275	....	85,348	196,004	2,500
June	196,004	75,544	99,858*	204	2,100	102,162	169,386	2,518
July	169,386	73,101	59,460	94	900	60,454	182,033	2,358
August	182,033	69,768	58,918	864	....	59,782	192,019	2,251
September	192,019	62,202	57,971	3,214	....	61,185	193,036	2,073
October	193,036	63,938	63,910	1,813	....	65,723	191,251	2,063
November	191,251	62,346	74,596	2,844	....	77,440	176,157	2,078
December	176,157	69,666	84,498	6,906	....	91,404	154,419	2,247
1959 Total		858,020	872,867	17,971	3,000	893,838	....	....
1960								
January	154,419	73,326	79,325	3,949	....	83,274	144,471	2,365
February	144,471	74,738	78,029	4,118	....	82,147	137,062	2,577
March	137,062	86,028	80,760	5,764	....	86 524	136,566	2,775
April	136,566	83,221	64,251	7,675	....	71,926	147,861	2,774
May	147,861	79,216	54,790	7,399	....	62,039	165,038	2,555
June	165,038	76,723	50,690	3,385	....	54,075	187,686	2,557

* Inflated by abnormal shipments on consignment of approximately 9,000 tons.

U. S. Consumption of Slab Zinc

Bureau of Mines

By Industries (Short Tons)

	Galvanizers	Die Casters	Brass products	Rolled zinc	Zinc oxide & other	Total
1951 Total	386,373	266,442	141,456	64,000	28,738	887,009
1952 Total	375,563	236,022	155,311	51,508	30,885	849,289
1953 Total	403,162	305,846	177,801	58 784	38,037	977,636
1954 Total	398,599	286,817	107,293	45,979	33,342	876,130
1955 Total	439,694	404,790	144,816	50,363	39,302	1,081,468
1956 Total	421,218	352,451	122,395	45,382	36,251	983,097
1957 Total	355,796	358,543	111,114	39,544	20,486	924,063
1958						
March	27,171	19,045	6,871	3,138	1,724	59,978
April	27,464	17,829	6,392	3,259	1,295	58,432
May	30,935	18,316	6,597	2,896	2,263	61,907
June	34,377	21,497	6,643	2,961	2,212	67,690
July	30,677	17,387	6,275	2,848	1,920	60,007
August	34,663	20,382	8,358	3,379	1,901	70,033
September	34,048	25,188	9,624	3,458	770	74,122
October	36,513	27,682	11,753	3,845	881	81,919
November	31,658	27,311	10,067	3,276	826	74,302
December	31,746	29,926	10,529	3,681	1,018	78,082
Total	370,441	273,540	92,906	38,690	16,772	737,942
1959						
January	31,729	29,110	11,172	3,874	2,521	79,506
February	31,672	26,448	11,508	3,418	2,864	77,010
March	37,287	29,286	12,889	3,629	3,203	87,394
April	38,541	31,262	12,304	3,715	3,223	90,145
May	38,788	29,169	12,015	3,316	3,305	88,093
June	40,531	36,269	10,764	3,801	3,120	95,985
July	23,700	28,120	7,558	2,509	2,042	65,429
August	13,763	29.803	10.064	3.160	2.161	60.451
September	13,181	31,463	10,842	3,322	2,237	62,545
October	13,582	35,473	10,543	3,272	2,487	66,857
November	25,456	29,351	8,858	3,411	2,523	71,099
December	38,418	34,576	8,704	3,152	2,936	89,286
Total	346,648	370,330	127,221	40,759	22,622	933,800
1960						
January	38,389	31,813	9,838	3,130	3,352	88,122
February	35,001	34,829	9,259	3,250	3,156	87,365
March	36,206	31,889	10,108	3,309	3,403	86,515
April	31,319	24,483	7,097	3,032	3,126	71,257

Prime Western Zinc Prices

(East St. Louis, f.o.b.)

(Cents Per Pound)

(In tons of 2,240 pounds)

	1957	1958	1959	1960
Jan.	13.50	10.00	11.50	12.90
Feb.	13.50	10.00	11.411	13.00
Mar.	13.50	10.00	11.00	13.00
Apr.	13.50	10.00	11.00	13.00
May	11.933	10.00	11.00	13.00
June	10.84	10.00	11.00	13.00
July	10.00	10.00	11.00	...
Aug.	10.00	10.00	11.00	...
Sept.	10.00	10.00	11.381	...
Oct.	10.00	10.865	12.233	...
Nov.	10.00	11.386	12.50	...
Dec.	10.00	11.50	12.50	...
Aver.	**11.40**	**10.313**	**11.46**	...

High Grade Zinc Prices

(Delivered)

N. Y. Monthly Averages

(Cents Per Pound)

	1957	1958	1959	1960
Jan.	14.85	11.35	12.50	14.244
Feb.	14.85	11.35	12.411	14.25
Mar.	14.85	11.35	12.00	14.25
Apr.	14.85	11.084	12.00	14.50
May	13.283	11.00	12.00	14.50
June	12.19	11.00	12.00	14.50
July	11.35	11.00	12.00	...
Aug.	11.35	11.00	12.006	...
Sept.	11.35	11.00	12.625	..
Oct.	11.35	11.865	13.483	...
Nov.	11.35	12.386	13.75	...
Dec.	11.35	12.50	13.75	...
Aver.	**12.75**	**11.407**	**12.544**	. .

U. K. Zinc Consumption

(British Bureau of Non-Ferrous Metal Statistics)

(In Tons of 2,240 Pounds)

	1958	1959	1960
Jan.	27,473	27,849	30,637
Feb.	24,551	25,676	30,480
Mar.	26,967	27,243	35,268
Apr.	24,984	28,006	28,069
May	24,579	26,167	30,848
June	25,587	30,221	...
July	23,794	26,318	...
Aug.	19,076	21,566	...
Sept.	26,747	31,270	...
Oct.	29,838	30,686	...
Nov.	26,432	29,221	...
Dec.	26,042	30,829	...
Total	**306,070**	**335,890**	...

IT PAYS
to
ADVERTISE
in the
DAILY METAL REPORTER

Mine Production of Zinc in United States

(U. S. Bureau of Mines)

(In short tons)

	Eastern States	Central States	Western States	Total U.S.*
1954				
Total	166,487	63,100	234,942	464,539
1955				
Total	163,230	73,630	277,811	514,671
1956				
Total	175,310	61,080	301,253	537,643
1957				
Total	196,877	29,506	290,151	520,128
1958				
Total	180,373	10,050	221,582	412,005
1959				
Jan.	16,446	——	19,114	35,560
Feb.	16,881	——	19,292	36,104
Mar.	18,266	——	18,817	37,183
Apr.	19,198	——	19,132	38,330
May	19,150	——	19,201	38,351
June	18,217	——	18,447	36,664
July	13,158	——	18,656	31,814
Aug.	14,410	140	16,661	31,211
Sept.	14,226	154	15,026	29,406
Oct.	15,608	200	15,979	31,487
Nov.	18,285	200	15,698	34,183
Dec.	19,609	106	15,757	35,472
Total	204,384	800	211,781	416,965
1960				
Jan.	20,962	226	15,795	36,983
Feb.	21,001	195	16,823	38,019
Mar.	22,794	347	19,725	42,866
Apr.	22,410	606	17,839	40,855
May	23,103	408	16,595	40,106

*Includes Alaskan output in some months.

Mine Production of Lead in United States

(U. S. Bureau of Mines)

(In short tons)

	Eastern States	Central States	Western States	Total U.S.*
1953				
Ttl.	9,970	136,650	188,776	335,412
1954				
Ttl.	8,608	138,940	169,804	317,352
1955				
Ttl.	10,379	145,640	177,409	333,409
1956				
Ttl.	11,395	141,900	195,034	348,329
1957				
Ttl.	9,300	135,800	188,392	333,493
1958				
Ttl.	6,439	118,114	142,824	267,377
1959				
Feb.	611	8,457	12,314	21,382
Mar.	601	7,943	12,426	20,970
Apr.	454	8,103	12,684	21,241
May	412	7,253	12,509	20,174
June	458	8,185	12,764	21,407
July	369	8,190	11,010	19,569
Aug.	353	9,762	11,735	21,850
Sept.	510	9,698	10,328	20,536
Oct.	548	10,012	10,755	21,315
Nov.	620	9,350	10,954	20,924
Dec.	550	8,734	10,572	19,856
Ttl.	6,535	105,435	141,290	253,260
1960				
Jan.	535	9,035	11,235	20,805
Feb.	555	9,611	12,267	22,433
Mar.	619	11,146	13,695	25,460
Apr.	647	9,716	12,750	23,113
May	624	9,395	10,720	20,738

Mine Production of Gold in United States

(U. S. Bureau of Mines)

(In fine ounces)

	Eastern States	Western States	Alaska*	Total
1955				
Ttl.	2,026	1,634,625	247,535	1,884,186
1956				
Ttl.	1,998	1,607,930	204,300	1,814,228
1957				
Ttl.	2,174	1,556,450	210,000	1,768,624
1959				
Jan.	—	——	——	143,374
Feb.	—	——	——	128,932
Mar.	—	——	537	135,934
Apr.	—	——	2,956	141,777
May	—	——	9,719	157,338
June	—	——	23,792	163,057
July	—	——	33,324	171,749
Aug.	—	——	37,534	146,907
Sept.	—	——	30,886	114,364
Oct.	—	——	29,349	117,314
Nov.	—	——	2,903	91,175
Dec.	—	——	17,294	106,525
Ttl.	—	——	188,294	1,618,446
1960				
Jan.	—	——	2,460	——
Feb.	—	——	1,064	108,652
Mar.	—	——	231	120,928
Apr.	—	——	43	121,017

* Alaska totals based on mint and smelter receipts.

U. S. Silver Production*

(A.B.M.S.)

(In thousands of ounces; commercial bars, 0.999 fine, and other refined forms)

	Dom.†	For.	Total
1954 Total	38,059	39,422	77,481
1955 Total	33,101	32,780	65,881
1956 Total	38,157	40,160	78,317
1957 Total	36,279	34,932	71,211
1958			
Total	35,691	37,572	73,263
1959			
January	2,330	4,460	6,790
February	2,827	2,913	5,740
March	2,823	4,087	6,910
April	2,946	3,233	6,179
May	2,641	3,484	6,125
June	3,219	3,231	6,450
July	2,609	3,284	5,893
August	1,472	1,229	2,701
September	390	577	967
October	510	610	1,120
November	635	602	1,237
December	756	4,311	5,067
Total	23,158	32,021	55,179
1960			
January	3,327	2,830	6,157
February	3,454	3,496	6,950
March	4,010	4,259	8,269
April	3,866	4,158	8,024
May	3,425	4,018	7,443

* The separation between silver of foreign and domestic origin on the basis of refined bars and other refined forms is only approximate.

† Includes purchases of crude silver by the U. S. Mint.

Mine Production of Recoverable Silver in United States

(U. S. Bureau of Mines)

(In Fine Ounces)

	Eastern States	Missouri	Western States	Alaska*	Total
1957 Total	610,386	240,000	37,018,950	26,000	37,895,336
1958 Total	†	210,000	†	28,000	33,022,225
1959					
February	†	18,060	†	....	2,908,630
March	†	17,200	†	67	2,982,254
April	†	17,600	†	421	2,963,775
May	†	15,900	†	1,201	3,046,085
June	†	17,900	†	2,953	2,926,886
July	†	8,900	†	4,149	2,905,320
August	†	10,600	†	5,523	2,291,540
September	†	10,400	†	3,224	1,794,029
October	†	10,900	†	3,793	1,952,629
November	†	10,400	†	469	1,874,624
December	†	10,140	†	2,334	1,825,198
Total	†	169,000	†	24,134	30,349,334
1960					
January	†	18,300	†	321	1,962,523
February	†	200	†	312	2,370,150
March	†	100	†	17	2,858,903
April	†	100	†	5	2,989,208

† Figures not available. * Alaska totals based on mint and smelter receipts.

Production of Primary Aluminum in the U. S.

(U. S. Bureau of Mines)

(In short tons)

	1953	1954	1955	1956	1957	1958	1959	1960
Jan.	89,895	116,247	128,203	140,394	147,029	139,910	156,708	164,024
Feb.	92,649	110,483	116,236	132,763	119,059	121,980	142,116	156,826
Mar.	104,460	122,339	130,272	145,895	135,706	134,019	157,189	170,688
Apr.	102,071	120,434	126,394	144,726	139,152	128,559	155,213	168,596
May	105,464	125,138	131,128	150,800	145,174	129,083	163,857	175,863
June	104,152	120,758	127,634	145,726	138,007	115,325	167,323	171,356
July	109,285	126,161	132,669	151,624	142,157	118,811	179,594	....
Aug.	110,545	125,296	133,551	92,406	143,449	125,416	172,817	....
Sept.	109,333	120,332	130,606	132,316	129,278	124,713	168,205	....
Oct.	108,219	125,089	134,655	149,125	133,759	139,847	173,762	....
Nov.	105,636	121,252	133,689	145,081	135,024	140,962	153,666	....
Dec.	110,291	127,056	140,748	148,391	140,033	153,301	162,996	....
Ttl.	1,252,013	1,460,565	1,565,721	1,679,427	1,647,710	1,655,556	1,953,019	....

Average Silver Prices

(Cents per fine ounce)

	1957	1958	1959	1960
Jan.	91.375	89.449	90.19	91.375
Feb.	91.375	88.625	90.444	91.375
Mar.	91.375	88.625	91.351	91.375
Apr.	91.375	88.625	91.375	91.375
May	91.307	88.625	91.375	91.375
June	90.456	88.625	91.375	91.375
July	90.31	88.625	91.375	...
Aug.	90.909	88.625	91.399	..
Sept.	90.602	88.673	91.399	...
Oct.	90.625	89.966	91.375	...
Nov.	90.382	90.125	91.375	...
Dec.	89.80	89.932	91.375	...
Aver.	**90.824**	**89.043**	**91.226**	...

Note — The averages are based on the price of refined bullion imported on or after August 31, 1943.

U. S. Lead Imports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1960		
	Mar.	Apr.	May
Ore, matte, etc. (cont.)	17,184	8,490	14,137
Canada	3,301	1,650	1,862
Mexico	87	34	139
Guatemala	...	...	1,170
Honduras	226	639	402
Argentina	...	103	...
Bolivia	1,544	542	1,258
Chile	1,172	...	...
Colombia	12	187	...
Peru	4,419	1,823	2,594
Union of South Africa	4,950	3	6,104
Australia	1,210	3,483	576
Philippines	19	7	...
Other countries	244	19	32
Base bullion (content)	8	...	...
Peru	8	...	...
Pigs and bars	17,727	19,706	12,326
Canada	3,173	1,541	1,005
Mexico	4,745	3,126	4,071
Peru	4,867	899	1,869
Germany (West)	...	315	...
Spain	972	300	...
United Kingdom	...	6	...
Yugoslavia	3,970	3,037	5,180
Rhodesia & Nyasaland	...	224	...
Australia	...	10,258	201
Total Imports:			
Ore, base bullion, ref.	34,919	28,196	26,463
Lead scrap, dross, etc. (cont.)	119	1,230	1,167
Antimonial lead & typemetal	1,516	205	260
Lead content thereof	1,441	157	211

U. S. Copper Scrap Exports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1960		
	Mar.	Apr.	May
Copper scrap, unalloyed† (new and old)	4,748	5,333	5,670
Canada	94	125	56
Argentina	22	...	22
Belgium	323	89	267
Germany (West)	1,356	1,965	3,295
Italy	160	301	398
Netherlands	82	264	168
Spain	621	1,721	306
Sweden	...	168	275
Yugoslavia	1,055	...	...
United Kingdom	...	27	191
India	244	151	120
Japan ‡	791	511	413
Hong Kong	...	...	66
Other countries	...	11	93
Copper-base scrap, alloyed‡ (new and old)	8,636	9,511	7,730
Canada	...	4	...
Mexico	6	1	4
Belgium	...	27	93
France	46	16	23
Germany (West)	416	923	1,502
Italy	296	932	627
Netherlands	58	350	394
Switzerland	70	86	13
United Kingdom	51	113	16
India	197	28	80
Japan	7,496	6,987	4,961
Hong Kong	...	22	17
Other countries	...	22	...

† Ash, brass mill, clippings, dross, flue dust, residues, scale, skimmings, wire scrap.

‡ Copper-base alloys, including brass and bronze—Ashes, clippings for remanufacture, cupro-nickel scrap, cupro-nickel trimmings, nickel silver scrap, phosphor bronze, phosphor copper, skimmings, turnings, round.

U. S. Copper Imports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1960		
	Mar.	Apr.	May
Ore, matte & regulus (cont.)	8,256	10,768	6,314
Canada	1,862	655	645
Mexico	159	108	134
Cuba	1,221	1,291	1,475
Bolivia	454	155	...
Chile	625	1,891	2,042
Peru	170	1,193	1,014
Philippines	2,534	2,368	...
Union of South Africa	1,162	3,080	950
Australia	67	27	54
Other countries	2	...	...
Blister copper (cont.)	26,218	22,815	16,180
Mexico	1,145	1,352	283
Chile	17,862	14,941	10,169
Peru	3,997	6,522	3,400
Union of South Africa	3,213	...	2,328
Other countries	1	...	...
Refined cathodes and shapes	17,962	10,087	7,152
Canada	12,756	9,282	6,839
Mexico	441	110	110
Chile	650	...	...
Peru	1,441	250	201
Belgium	207	225	...
Germany (West)	174	...	2
Spain	1,444	...	...
Sweden	454	220	...
Rhodesia & Nyasaland	395	...	...
Total Imports:			
Crude and refined	52,436	43,670	29,646
Old and scrap (cont.)	279	252	61
Composition metal (content)	...	...	28
Brass scrap and old (cu. cont.)	56	90	66

U. S. Copper Exports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1960		
	Mar.	Apr.	May
Ore, concentrates, matte and other unrefined (content)	1,108	671	278
Refined ingots, bars, etc.†	21,239	31,329	50,753
Canada	137	132	31
Cuba	...	...	4
Argentina	917	457	512
Brazil	540	493	681
Austria	...	...	166
Belgium	15	88	688
Denmark	...	112	112
France	4,133	5,480	7,484
Germany (West)	6,022	6,423	14,548
Italy	954	5,419	7,177
Netherlands	392	794	2,068
Norway	532	7	290
Portugal	...	...	56
Sweden	391	...	728
Switzerland	1,173	190	307
United Kingdom	4,229	6,378	11,463
Yugoslavia	...	168	560
Taiwan	...	116	281
India	...	112	233
Japan	2,804	4,531	3,010
Australia	...	336	224
Other countries	...	93	130
Total Exports:			
Crude and refined	22,347	32,000	51,031
Pipes and tubes	75	47	64
Plates and sheets	25	46	32
Semifabricated forms	299	233	630
Wire, bare	388	202	147
Building wire and cable‡	105	161	129
Weatherproof wire‡	1	4	7
Insulated copper wire n.e.s.‡	774	810	771

† Includes exports of refined copper resulting from scrap that was reprocessed on toll for account of the shipper.

‡ Gross weight; n.e.s.—not elsewhere specified.

Comparative Metal Prices

	Av. 1939	OPA Av. 1946	1960 July 22
Copper, domestic Electro., Del. Val.	11.20	14.375	33.00
Lead (N. Y.)	5.05	8.25	12.00
P. W. Zinc (E. St. Louis, f.o.b.)	5.05	5.05	13.00
New York, del.	...	...	13.50
Tin Spot Straits, N. Y.	...	...	104.75
Aluminum ingot 99½%+	20.00	15.00	28.10
Antimony (R.M.M. brand f.o.b. Laredo)	12.36	14.50	29.00

U. S. Zinc Imports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1960		
	Mar.	Apr.	May
Zinc ore (content)	44,950	39,168	49,160
Canada	9,386	14,397	9,474
Mexico	14,535	15,058	22,863
Cuba	77	...	...
Honduras	894	138	91
Bolivia	756	64	52
Colombia	...	15	5
Peru	11,874	2,225	10,721
Spain	5,901	3,808	...
Union of South Africa	1,051	2,892	803
Australia	388	537	5,071
Philippines	31	25	27
Other countries	57	9	53
Zinc blocks, pigs, etc.	12,122	7,500	6,820
Canada	5,942	4,092	3,709
Mexico	2,744	661	1,102
Peru	698	450	492
Belgium	1,077	663	55
Germany (West)	331	443	112
Italy	43	1,007	...
United Kingdom	...	...	110
Yugoslavia	110	...	468
Belgian Congo	1,177	184	772
Total Imports:			
Zinc ore, blocks, pigs	57,072	46,668	55,980
Dross and skimmings	188	155	46
Old and worn out	...	38	16

U. S. Zinc Exports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1960		
	Mar.	Apr.	May
Slabs, blocks, etc.	5,878	4,656	7,066
Canada	2	207	...
Mexico	187	1	...
Brazil	...	22	...
Chile	...	...	3
Colombia	...	...	220
Belgium	...	...	336
Germany (West)	112	...	1,344
Netherlands	224	224	224
Sweden	168	224	224
United Kingdom	700	3,165	3,738
Japan	2,556	553	...
Taiwan	...	...	330
India	1,904	196	...
Other countries	25	64	...
New Zealand	...	...	†647
Total Exports:			
Ore, conc., slabs	5,878	4,656	7,066
Scrap, ashes, dross and skimmings	477	437	1,406
Battery shells and parts, unassembled	23	...	36
Rolled in sheets, plates and strips and die castings	314	342	336
Zinc and zinc alloys in crude and semifabricated forms	217	428	81
Zinc oxide	365	133	196

† Includes 140 tons to Denmark, 224 to Italy and 224 to Switzerland.

U. S. Lead Exports

(A.B.M.S.) (Bureau of the Census)

(In tons of 2,000 lbs.)

	1960		
	Mar.	Apr.	May
Lead, ore, concentrates, matte and base bullion (content)	5	5	15
Mexico	5	5	15
Pigs and bars	40	84	750
Canada	...	3	7
Mexico	...	3	...
Cuba	...	3	...
Guatemala	25	...	...
Philippines	8	5	...
Taiwan	...	...	734
Korea	...	67	...
Other countries	7	3	9
Total Exports:			
Ore, base bullion, ref.	45	89	765
Scrap	196	151	60
Lead plate, including battery plate, not assembled as complete battery units	1	8	...
Babbitt metal	4	8	3
Lead and lead base alloys in semifabricated forms	53	63	39

World Production of Copper

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States (a)	Canada (b)	Mexico (crude) (c)	Chile (d)	Peru (d)	Fed. Rep. of Germany (e)	Norway (f)	United Kingdom (g-h)	Yugoslavia (e)	India (f-h)	Japan (e)	Turkey (f)	Australia (e)	Northern Rhodesia (e)	Union of South Africa (d)
1955															
Total	1,036,702	326,599	61,583	447,288	35,478	286,805	14,876	138,271	31,151	8,432	124,908	26,313	41,935	350,302	47,176
1956															
Total	1,133,134	356,251	69,918	506,251	35,005	279,461	16,457	127,365	32,390	8,827	139,062	27,101	55,711	435,186	47,914
1957															
Total	1,115,483	360,745	42,905	....	46,141	255,710	17,265	121,799	37,186	9,298	143,654	27,101	55,633	499,418	47,828
1958															
Total	1,881,170	346,816	68,386	462,064	42,750	295,312	19,529	106,134	37,116	9,062	136,612	24,676	72,361	426,513	53,090
1959															
Feb.	88,432	28,016	4,810	43,589	1,627	24,289	1,599	9,211	3,521	557	11,388	1,614	5,930	44,420	4,339
Mar.	101,410	32,427	4,771	44,554	1,601	26,959	1,694	8 654	3,536	810	10,746	2,034	4,573	51,630	4,611
April	98,376	32,130	5,201	42,715	4,250	26,859	1,870	11,259	3,593	763	17,938	2,330	7,419	48,150	4,528
May	104,236	32,622	5,275	46,083	3,770	25.358	1,771	7,693	3,503	764	18,516	2,480	6,408	53,067	4,676
June	99,419	36,979	5,847	46,901	3,357	24,635	1,743	10,909	3,231	776	18,621	2,362	8,133	53,895	4,766
July	81,662	36,067	5,755	45,508	3,676	25,890	1,639	7,108	3,369	781	18,957	1,846	5,346	48,806	4,541
Aug.	51,327	35,045	5,326	50,093	2,533	24,716	1,677	6,610	1,810	774	18,805	2,378	5,798	50,285	4,357
Sept.	19,503	35,740	4,125	44,439	8,782	25,357	1,986	10,438	3,619	799	18,837	2,427	7,111	48,753	3,742
Oct.	20,931	35,980	4,068	36,449	3,061	27,840	1,800	8,951	3,137	804	18,898	2,304	....	49,519	3,025
Nov.	18,351	35,271	4,886	50,877	2,904	25,258	1,495	10,076	3,451	802	17,186	2,923	....	49,232	5,005
Dec.	26,686	34,416	4,872	53,186	3,438	28,143	2,035	8,736	2,403	421	20,498	....	....	48,350	5,244
1960															
Jan.	64,098	36,404	4,326	47,550	2,901	27,222	1,941	7,489	3,310	769	21,096	....	4,702	56,495	5,061
Feb.	85,899	35,824	4,817	43,380	3,579	25,288	1,954	8,719	3,013	831	....	....	6,915	47,322	3,017
Mar.	107,895	38,341	5,376	49,124	15,956	30,836	2,008	8,453	3,617	913	22,968	2,723	6,310	52,332	4,292
Apr.	104,895	34,289	4,672	....	16,501	26,915	1,905	9,640	3,177	808	21,563	....	....	54,595	4,738
May	104,272	....	4,300	....	16,198	29,897	....	12,379	....	838	....	....	....	55,596	.....
June	98,344	....	....	....	....	....	....	....	....	....	....	....	....	....	.....

(a) Reported by Copper Institute. Crude, "recoverable contents of mine production or smelter production or shipments, and custom intake." Does not include intake of scrap nor of imported ore except that received from Cuba and Philippines. (b) Blister copper plus recoverable copper in concentrates, matte, etc., exported. (c) Crude copper, i. e., copper content of blister or converter copper as originally produced in the several countries, although some of it may be refined at home; e. g., in Rhodesia. (d) Blister and/or refined. (e) Refined. There are quantities of scrap included in the electrolytic production in addition to that reported, tonnage of which is not obtainable. (f) Smelter production. (g) Refinery production from imported blister only. (h) British Bureau of Non-Ferrous Metal Statistics. * Refined.

World Production of Refined Lead

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States	Canada	Mexico	Peru	Belgium	France	Fed. Rep. of Germany	Italy	Spain	Yugoslavia	Japan	Australia (a)	French Morocco	Tunisia	Rhodesia	Total
1955																
Total	547,153	148,811	221,138	67,303	91,241	73,251	162,508	46,806	67,509	83,347	40,912	254,558	28,870	28,620	17,976	1,893,125
1956																
Total	613,293	147,865	213,524	61,917	111,479	73,251	178,718	42,780	64,824	83,507	51,019	256,300	30,993	26,623	17,024	1,984,344
1957																
Total	604,533	142,935	218,266	55,971	....	94,509	195,136	42,336	61,332	85,313	59,670	261,035	34,442	27,069	12,364	2,041,530
1958																
Total	575,612	130,886	246,443	80,999	119,192	111,337	223,973	60,860	77,490	92,903	52,915	271,654	42,266	32,359	16,492	1,955,753
1959																
Feb.	39,498	12,740	15,472	2,662	9,460	5,812	17,869	4,437	6,020	8,596	6,474	22,037	2,319	1,765	1,344	157,928
Mar.	39,238	13,704	16,305	3,424	8,447	6,733	17,553	3,168	6,196	8,153	6,889	20,144	1,905	2,429	1,344	156,914
April	40,606	13,655	16,621	4,438	8,038	5,541	17,141	4,942	6,491	6,876	6,615	23,919	2,726	2,155	1,344	162,611
May	39,101	13,357	16,934	6,606	8,797	7,363	17,728	3,614	7,435	8,369	6,137	23,499	2,050	1,784	1,344	165,602
June	37,459	12,997	20,000	6,540	9,125	6,976	18,128	2,453	6,510	7,854	6,349	25,151	1,552	926	1,344	164,815
July	32,882	8,096	17,099	6,401	8,734	6,065	16,381	4,384	6,074	2,221	5,303	19,125	2,859	1,749	1,344	139,291
Aug.	25,589	7,357	19,086	4,267	7 547	6,581	15,256	3,354	6,049	8,645	5,344	21,168	862	2,863	1,344	136,725
Sept.	14,801	9,775	14,320	4,354	7,217	6,164	17,773	4,502	4,728	8,731	5,322	22,786	3,567	2,352	1,344	128,850
Oct.	18,892	9,897	17,988	6,093	7,107	6,004	18,070	4,310	6,193	....	4,663	24,226	3,466	2,669	1,344	.....
Nov.	18.796	9,674	18,223	6,199	7,766	6,431	17,820	4,310	6,193	8,273	4,594	24,226	3,466	2,669	1,344	141,370
Dec.	30,160	10,071	16,448	5,826	7,708	6,581	19,726	4,638	6,639	11,393	6,865	23,448	3,869	2,056	1,344	.....
1960																
Jan.	40,043	11,664	15,821	6,127	8,450	6,818	19,424	3,128	7,284	6,896	6,699	26,233	2,448	....	1,309	163,457
Feb.	36,435	12,459	17,371	6,063	8,746	6,276	17,907	4,260	6,468	7,167	....	24,964	2,267	1,047	1,316	.....
Mar.	37,192	13,967	13,687	7,154	9,561	8,500	19,743	3,716	6,249	7,804	7,034	19,307	2,916	1,774	1,348	161,625
Apr.	40,177	....	17,715	6,945	9,357	9,716	19,202	3,607	6,885	6,382	6,647	19,663	3,053	2,663	1,347	.....
May	36,509	....	18,736	6,905	9,406	9,370	20,299	4,074	....	....	....	....	3,103	1,241	1,354	.....
June	....	....	....	6,695	....	....	....	....	....	....	....	....	....	....	1,355	.....

(a) Production credited to Australia includes lead refined in England from Australian base bullion.

World Production of Slab Zinc

(American Bureau of Metal Statistics)

(In Tons of 2,000 Pounds)

	United States (a)	Can. (b)	Mexico	Peru (b-c)	Belgium	France (a)	Fed. Rep. of Germany	Great Britain	Italy	Netherlands	Norway (b)	Spain	Yugoslovia	Japan (a)	Australia (b)	Rhodesia (b)	Total (d)
1955																	
Total	1,031,018	257,008	61,879	18,943	233,623	123,623	197,024	90,917	77,761	31,202	49,724	26,244	15,175	122,965	113,221	31,248	2,534,457
1956																	
Total	1,062,954	255,601	62,136	10,428	251,906	124,105	204,961	90,784	80,407	32,123	53,170	25,224	15,434	153,821	117,445	32,396	2,630,383
1957																	
Total	1,574,500	247,356	62,354	35,772	259,701	148,455	202,627	85,348	81,179	32,786	52,787	24,279	30,256	152,145	123,587	33,040	2,691,699
1958																	
Total	892,607	254,661	18,354	34,685	257,540	177,422	210,408	80,494	5,955	2,841	54,423	26,750	34,446	166,883	128,548	39,508	2,464,639
1959																	
Jan.	76,481	21,456	5,476	2,753	19,857	13,903	17,164	5,955	5,617	2,693	4,826	2,028	2,647	11,679	10,541	2,800	211,506
Feb.	71,174	19,709	4,915	1,497	19,838	13,491	15,632	6,123	4,735	2,927	4,928	1,926	2,510	14,105	9,617	2,548	199,495
Mar.	79,918	22,135	5,439	2,363	20,215	14,230	17,325	7,797	6,801	2 921	4,917	2,369	3,014	13,217	10,759	2,800	221,316
Apr.	76,393	21,512	5,225	2,502	20,408	14,087	16,426	6,030	7,039	2,816	3,621	2,239	2,509	15,645	10,472	2,716	216,378
May	77,489	21 147	5,108	2,545	21.181	13,902	16,633	6,595	7,790	2,823	4,798	2,273	2,701	16,171	11,137	2,744	226,057
June	75,544	21,250	4,776	2,524	21,004	14,120	16,185	8,271	7,164	2,899	4,759	2,180	2,083	15,873	10,899	2,716	218,131
July	73,101	21,055	5,038	2,634	20,100	14,262	16,325	6,112	7,303	2,917	4,539	2,057	3,796	15,233	11,189	2,856	215,525
Aug.	69,768	21,588	4,965	2,504	19,472	14,138	16,585	6,507	7,370	2,968	4,646	2,198	3,355	15,308	11,298	2,912	211,964
Sept.	62,202	20,744	4,935	2,537	19,387	11,883	16,366	7,892	6,819	2,928	4,708	2,208	3,013	15,133	10,985	2,800	199,560
Oct.	63,938	21,744	5,084	2,545	20,512	13,228	17,064	5,657	6,403	2,967	3,570	2,245	....	....	10,904	2,800	.....
Nov.	62,346	21,039	5,072	2,608	21,180	12,251	16,689	6,203	6,403	2,967	3,570	2,245	4,990	13,634	10,904	2,800	199,319
Dec.	69,666	21,963	5,330	2,578	21,810	12,807	17,336	7,772	6,519	3,201	3,074	2,331	....	15,141	11,305	2,906	.....
1960																	
Jan.	73,326	22,426	5,278	2,608	21,957	12,675	17,409	7,250	6,781	2,786	4,743	2,402	3,178	15,498	11,023	2,707	220,587
Feb.	74,738	21,055	4,627	2,660	22,059	13,331	16,501	5,761	6,774	2,957	4,299	2,213	3,180	....	10,357	2,664	.....
Mar.	86,028	22,549	5,297	2,841	22,406	14,424	17,663	7,868	7,794	3,462	4,388	2,242	3,392	16,307	11,137	2,894	.....
Apr.	83,221	21,391	4,662	2,760	22,608	14,235	16,883	6,860	7,173	3,112	4,421	2,146	3,100	16,188	10,874	2,800	.....
May	79,216	21,701	4,972	3,051	23,278	14,071	17,147	5,137	8,038	3,361	3,638	....	....	....	11,238	2,897	.....
June	76,723	....	....	2,951	....	....	....	6,786	....	....	3,988	....	....	....	....	2,803	.....

(a) Partially electrolytic. (b) Entirely electrolytic. (c) Beginning 1954 both electrolytic and electrochemic. (d) The above totals omit production in Russia, Czechoslovakia, Poland and in Argentina.

U. K. Stocks of Zinc

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

At start of:	Virgin Zinc 1959	Virgin Zinc 1960	Zinc Conc. 1959	Zinc Conc. 1960
Jan.	34,166	37,162	56,371	45,885
Feb.	34,805	48,337	58,518	41,547
Mar.	36,850	48,689	57,897	39,546
Apr.	38,457	51,064	52,151	44,250
May	38,643	54,491	47,936	47,486
June	37,713	52,470	41,954	47,595
July	38,297	....	45,640	....
Aug.	37,427	....	43,948	....
Sept.	40,358	....	42,385	....
Oct.	40,995	....	39,233	....
Nov.	35,994	....	38,948	....
Dec.	35,460	....	47,131	....

U. K. Zinc Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

(Gross Weight)	Feb. 1960	Mar. 1960	Apr. 1960
Zinc ore and concentrates	14,230	26,848	20,356
Zinc conc.*	4,206	12,881	†
Australia	1,364	10,666	...
Peru	1,189	595	...
Burma	935	970	...
Turkey	616	...	...
Other countries	102	650	...
Zinc and zinc alloys	17,616	19,802	15,094
Rhodesia-Nyasaland	350	375	..
Australia	1,121	...	700
Canada	7,398	11,462	6,642
Belgium	1,031	975	1,510
Germany (W.)	1	70	11
Netherlands	327	25	94
Soviet Union	2,206	3,071	1,804
United States	1,690	639	949
Belgian Congo	1,465	1,550	1,325
Poland	150	750	175
Other countries	1,877	885	1,884

* British Bureau of Non-Ferrous Metal Statistics. The estimated zinc content is not the content of the gross weight as officially reported for any comparable period.
† Not available.

U. K. Copper Exports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

	Feb. 1960	Mar. 1960	Apr. 1960
Copper unwrought — ingots blocks, slabs, bars, etc.	4,241	3,726	3,422
Plates, sheets, rods, etc.	6,230	4,931	1,731
Wire (including uninsulated electric wire)	229	316	264
Tubes	773	1,139	958
Other copper worked including pipe fittings)	154	95	166
Total	11,627	10,207	6,541

Copper Consumption in United Kingdom

British Bureau of Non-Ferrous Metal Statistics

(In tons of 2,240 pounds)

	Unalloyed	Alloyed*	Total	Virgin	Scrap
1956 Total	388,167	251,312	639,479	500,794	138,685
1957 Total	407,326	234,158	641,484	507,493	133,991
1958 Total	442,977	225,007	667,978	534,619	133,359
1959					
February	29,373	19,020	48,293	35,775	12,518
March	27,864	19,567	47,431	36,124	11,307
April	32,742	22,782	55,525	43,015	12,509
May	28,421	19,199	47,620	33,367	14,253
June	35,009	21,103	56,112	44,761	11,351
July	24,714	19,858	44,572	32,034	12,538
August	24,524	16,097	40,621	30,866	9,735
September	35,447	21,920	57,367	45,178	12,189
October	37,221	23,880	61,101	47,345	13,756
November	37,463	23,392	60,855	47,031	13,824
December	36,044	23,202	59,246	44,753	14,493
Total	382,295	250,871	633,166	478,819	154,347
1960					
January	33,888	23,428	57,316	41,741	15,575
February	37,662	23,925	61,587	48,824	12,763
March	41,306	26,676	67,982	54,389	13,593
April	35,153	23,525	58,678	41,147	17,531
May	38,621	25,038	63,659	46,406	17,253

* Includes copper sulphate effective October, 1954.

U. K. Virgin Copper Stocks

(In long tons)

(British Bureau of Non-Ferrous Metal Statistics)

At start of.	1958	1959	1960
Jan.	91,477	64,184	55,005
Feb.	82,483	65,941	61,008
Mar.	89,147	65,875	55,979
Apr.	94,330	72,946	51,137
May	88,582	72,318	59,404
June	88,913	78,505	77,808
July	81,851	80,477	....
Aug.	84,756	81,986	....
Sept.	89,899	89,483	....
Oct.	85,092	77,803	....
Nov.	74,696	64,602	....
Dec.	69,023	60,936	....

U. K. Refined Lead Stocks

(British Bureau of Non-Ferrous Metal Statistics)

(In long tons)

At start of.	1958	1959	1960
Jan.	51,296	45,444	48,035
Feb.	49,134	48,102	44,290
Mar.	47,738	40,535	42,043
Apr.	40,547	53,289	41,248
May	37,509	62,286	50,363
June	34,608	63,135	45,657
July	40,518	57,810	....
Aug.	37,148	67,586	....
Sept.	43,758	66,048	....
Oct.	48,856	63,121	....
Nov.	40,216	56,697	....
Dec.	35,335	46,984	....

Zinc Imports and Exports By Principal Countries

(A.B.M.S.)

Reported in pigs, bars, etc.; metric tons except where otherwise noted.

	Feb. 1960	Mar. 1960	Apr. 1960
IMPORTS			
U. S. (s.t.)	9,477	12,122	7,500
Canada (s.t.)	1	1	...
Denmark	1,124	934	929
France	1,373	2,116	2,744
Germany, W.*	7,743	12,086	...
Italy	353	49	...
Netherlands	1,239	731	618
Sweden	2,621	1,529	3,148
Switzerland*	1,834	1,982	1,608
U. K. (l.t.)	17,616	19,802	15,094
India† (l.t.)	3,433	7,136	5,131
EXPORTS			
U. S. (s.t.)	1,816	5,878	4,656
Canada (s.t.)	18,106	16,887	10,281
Belgium	11,049	...	...
Denmark	264	25	109
France	564	521	548
Germany, W.*	2,673	2,294	...
Italy	1,307	...	...
Netherlands	1,395	1,693	993
Norway	2,843	2,217	...
Switzerland*	18	...	...
U. K.‡ (l.t.)	763	720	1,265
Northern Rhodesia† (l.t.)	2,540	2,379	2,240
Australia (l.t.)	2,833	2,036	2,068
Belgian Congo	4,208	...	...

* Includes scrap.
‡ Includes manufactures.
† British Bureau of Non-Ferrous Metal Statistics.

United Kingdom Tin Statistics

(British Bureau of Non-Ferrous Metal Statistics)

	Tin Content of Tin in Ore: Imports	Production*	Stock at end of period*	Tin Metal: Imports	Production*	Consumption	Exports & Re-exports	Stock at end of period
1957 Total	39,272	1,028	....	9,834	34,175	20,365	7,362	71,931
1958 Total	27,419	1,090	....	13,195	32,551	20,413	20,398	19,054
1959								
May	1,493	92	1,575	28	1,808	1,686	2,421	9,445
June	1,323	129	920	25	2,267	1,987	2,919	9,638
July	2,971	112	2,043	47	2,735	1,682	2,639	11,255
August	1,970	58	1,704	21	1,908	1,224	2,956	10,752
September	2,990	115	2,132	33	2,229	2,093	3,742	10,624
October	2,259	108	1,851	24	3,101	1,915	1,986	10,383
November	3,936	90	3,317	25	2,513	1,861	1,997	10,545
December	2,161	117	2,941	15	2,858	1,997	1,513	11,523
Total	25,812	1,252	....	726	27,229	21,396	21,358	10,884
1960								
January	1,490	117	1,845	190	2,377	1,878	1,394	10,884
February	2,417	105	2,095	421	2,144	1,879	1,189	10,240
March	2,294	98	2,316	10	2,743	2,191	1,099	10,677
April	1,532	....	2,216	159	1,645	1,774	231	10,349

*As reported by International Tin Study Group. Production of Tin Metal includes production from imported scrap and residues refined on toll. Stocks exclude strategic stock but include official warehouse stocks.

Canada's Copper Output

(Dominion Bureau of Statistics)

(Primary Copper)

(In Tons)

	1957	1958	1959	1960
Jan.	25,469	32,868	24,664	36,404
Feb.	21,861	28,668	28,016	35,824
Mar.	27,663	29,239	32,427	38,341
Apr.	27,398	30,635	32,130	34,289
May	29,086	32,471	32,622	...
June	24,093	32,418	36,979	...
July	27,195	31,131	36,067	...
Aug.	26,943	30,867	35,045	...
Sept.	24,633	27,546	35,740	...
Oct.	30,312	22,572	35,980	...
Nov.	27,331	20,368	35,271	...
Dec.	31,604	19,033	34,416	...
Year	323,588	346,816	399,362	

Canada's Copper Exports

(Dominion Bureau of Statistics)

(Ingots, bars, slabs and billets)

(In Tons)

	1957	1958	1959	1960
Jan.	20,582	26,883	10,620	29,046
Feb.	16,272	16,816	10,304	22,295
Mar.	14,270	18,662	11,025	20,338
Apr.	16,417	23,261	17,079	21,135
May	19,048	19,358	21,739	....
June	10,826	20,831	21,310	....
July	18,621	21,703	13,650	....
Aug.	21,980	15,881	15,155	....
Sept.	14,314	15,373	21,077	....
Oct.	13,110	20,341	19,977	....
Nov.	16,622	14,391	23,172	....
Dec.	16,282	11,138	20,542	....
Year	198,794	224,638	198,010	....

Canada's Lead Output

(Dominion Bureau of Statistics)

(Recoverable Lead)*

(In Tons)

	1957	1958	1959	1960
Jan.	14,032	17,117	17,118	16,284
Feb.	15,170	14,908	15,923	16,397
Mar.	16,940	15,421	17,389	16,887
Apr.	14,275	15,644	16,237	16,266
May	14,591	15,131	16,813	....
June	16,431	15,645	14,968	....
July	14,377	14,076	15,111	....
Aug.	14,679	12,260	14,104	....
Sept.	15,869	15,401	12,420	....
Oct.	14,151	14,564	13,958	....
Nov.	15,879	16,680	13,024	....
Dec.	15,296	18,248	14,545	....
Year	171,690	185,095	181,610	....

* New base bullion from Canadian ores plus recoverable lead in ores or concentrates shipped for export.

Canada's Lead Exports

(Dominion Bureau of Statistics)

(In Pigs)

(In Tons)

	1957	1958	1959	1960
Jan.	8,946	4,752	5,034	5,549
Feb.	6,633	1,553	6,377	6,692
Mar.	7,044	9,497	11,831	11,216
Apr.	7,314	7,450	7,836	5,407
May	9,676	7,764	12,230	....
June	7,210	4,036	15,610	....
July	4,682	12,629	3,478	....
Aug.	6,416	7,232	4,023	....
Sept.	8,467	5,125	3,895	....
Oct.	7,761	10,320	4,885	....
Nov.	6,175	10,641	6,785	....
Dec.	4,217	11,352	10,218	....
Year	84,541	92,351	92,252	....

Canada's Zinc Output

(Dominion Bureau of Statistics)

(Refined Zinc)

(In Tons)

	1957	1958	1959	1960
Jan.	20,340	21,801	21,456	22,247
Feb.	19,808	19,743	19,709	21,055
Mar.	21,941	22,314	22,135	22,549
Apr.	20,504	20,989	21,512	31,391
May	20,564	21,269	21,147	....
June	19,928	20,353	21,250	....
July	20,061	20,873	21,055	....
Aug.	20,305	21,152	21,588	....
Sept.	20,247	20,530	20,744	....
Oct.	20,892	21,125	21,744	....
Nov.	20,933	20,273	21,039	....
Dec.	21,823	21,705	21,963	....
Year	247,351	252,157	255,342	....

Canada's Zinc Exports

(Dominion Bureau of Statistics)

(Ore in Tons)

	1957	1958	1959	1960
Jan.	19,304	17,349	13,565	18,445
Feb.	16,618	8,376	12,675	12,995
Mar.	14,923	19,636	14,617	14,108
Apr.	17,131	16,346	12,789	13,400
May	16,680	15,121	11,049	....
June	16,157	7,776	20,298	....
July	12,912	27,394	23,122	....
Aug.	20,520	15,906	18,464	....
Sept.	17,671	8,670	14,367	....
Oct.	16,735	22,810	12,518	....
Nov.	17,225	17,978	16,577	....
Dec.	16,131	18,344	11,043	....
Year	202,007	195,707	181,084	....

Canada's Silver Exports

(Dominion Bureau of Statistics)

(In ores and concentrates)

Fine Ounces)

	1958	1959	1960
Jan.	634,715	185,367	887,242
Feb.	208,149	329,742	1,312,006
Mar.	350,827	425,973	740,465
Apr.	284,971	989,593	809,500
May	376,082	564,017	.....
June	438,253	871,570	.....
July	529,770	728,598	.....
Aug.	279,511	688,042	.....
Sept.	583,570	763,017	.....
Oct.	323,475	767,939	.....
Nov.	217,892	70,205	.....
Dec.	871,573	430,802	.....
Year	5,098,788	6,210,175	.....

Canada's Silver Output

(Dominion Bureau of Statistics)

(In Ounces)

	1958	1959	1960
Jan.	2,529,583	3,094,440	2,755,069
Feb.	2,294,655	2,264,903	2,864,074
Mar.	2,448,698	2,782,307	2,734,245
Apr.	2,558,958	2,691,503	2,542,105
May	2,650,665	2,499,149	.....
June	2,527,632	2,676,937	.....
July	2,385,687	2,867,957	.....
Aug.	2,884,154	2,519,033	.....
Sept.	2,856,304	2,446,846	.....
Oct.	2,390,027	3,072,219	.....
Nov.	2,643,790	2,333,137	.....
Dec.	2,917,528	2,678,623	.....
Year	31,087,681	31,927,054	.....

Canada's Nickel Output

(Dominion Bureau of Statistics)

(In Tons)

	1957	1958	1959	1960
Jan.	16,609	16,710	8,047	17,399
Feb.	15,027	15,896	12,616	16,435
Mar.	16,733	15,853	14,922	17,780
Apr.	15,347	15,163	15,493	17,524
May	16,225	15,231	16,622	...
June	15,447	14,603	16,599	...
July	15,878	12,851	16,199	...
Aug.	16,756	12,597	16,784	...
Sept.	15,604	11,786	16,205	...
Oct.	15,628	3,682	17,212	...
Nov.	14,587	3,178	16,904	...
Dec.	15,096	3,298	18,738	...
Year	188,962	140,842	186,341	

Canadian Copper Exports

(Dominion Bureau of Statistics)

(In tons of 2,000 lbs.)

	1960		
	Mar.	Apr.	May
Ore, matte, regulus, etc. (content)	4,248	2,432	2,332
United States	2,472	360	1,086
Norway	1,567	1,383	1,041
U. Kingdom	209	138	205
Japan	...	551	...
Ingots, bars, billets, anodes	20,339	21,135	20,767
United States	11,502	9,531	8,056
Brazil	...	2	138
Belgium	...	280	280
France	1,120	840	1,118
Finland	...	336	280
Germany (W.)	616	672	593
Greece	...	112	...
Italy	...	...	84
Netherlands	112	112	84
Sweden	224	112	...
U. Kingdom	6,387	8,724	9,672
India	375	397	458
Other countries	3	17	4
Total Exports:			
Crude & refined	24,587	23,567	23,099
Old and scrap	396	249	1,634
Rods, strips, sheet & tubing	1,275	1,111	1,935

Canadian Zinc Exports

(Dominion Bureau of Statistics)

(In tons of 2,000 lbs.)

	1960		
	Mar.	Apr.	May
Ore (zinc content)	14,108	13,400	12,484
United States	14,108	12,725	12,484
Belgium	...	59	...
U. Kingdom	...	616	...
Slab zinc	16,887	10,281	13,440
United States	6,390	3,441	4,457
Brazil	..	190	231
Germany (W.)	...	112	...
Netherlands	448	336	868
U. Kingdom	7,007	5,610	6,308
Korea	199	108	...
Hong Kong	...	56	...
Taiwan	154	...	33
India	154	318	1,543
Japan	2,535	..	...
Thailand	...	110	...
Total Exports:			
Ore and slabs	30,995	23,681	25,924
Zinc scrap, dross, ashes	129	58	1,029
United States	112	27	129
Belgium	...	...	705
Netherlands	17	...	195
Japan	...	31	...

French Copper Imports

(A. B. M. S.)

(In metric tons)

	1960		
	Mar.	Apr.	May
Crude copper for refining (blister, black and cement)	...	813	...
Belgian Congo	...	813	...
Refined	18,144	16,126	19,201
United States	3,397	5,157	4,525
Canada	1,015	1,270	1,271
Chile	1,750	250	3,500
Belgium	7,150	3,845	5,196
Germany (W.)	464	651	119
Norway	76	...	152
Sweden	5	20	30
Belgian Congo	1,942	2,616	2,296
Rhodesia-Nyasaland	2,244	2,299	2,112
Other countries	101	18	...

Canadian Lead Exports

(Dominion Bureau of Statistics)

(In tons of 2,000 lbs.)

	1960		
	Mar.	Apr.	May
Ore (lead content)	3,387	2,468	2,684
United States	3,387	1,791	2,684
Belgium	...	677	...
Refined lead	11,216	5,407	6,979
United States	3,920	1,630	1,858
U. Kingdom	6,564	3,426	4,821
Japan	496	261	110
Taiwan	88	...	132
Korea	11	...	...
India	104	90	56
Other countries	33	...	2
Total Exports:			
Ore and refined	14,603	7,875	9,663
Lead scrap	4	375	735

Copper Imports and Exports By Principal Countries

(A.B.M.S.)

Reported in ingots, slabs, etc.; metric tons except where otherwise noted.

	1960		
	Jan.	Feb.	Mar.
IMPORTS			
U. S. (blist., s.t.)	21,507	14,215	26,218
(ore, etc., s.t.)	7,246	9,899	8,256
(ref., s.t.)	34,120	22,599	17,962
Belgium*	17,304		
Denmark	451	517	431
France (crude)		813	
(refined)	12,276	16,271	18,144
Italy	15,097		
Germany, West	22,982		
Netherlands	2,717	2,132	2,243
Norway	74	428	
Sweden	9,848	7,558	7,343
Switzerland	1,544	2,444	2,056
U. K. (l.t.)	44,384	40,076	43,927
India (blister/-ref., l.t.)†	3,375	2,825	
EXPORTS			
U. S. (ore, and unref., s.t.)	53	809	1,108
(ref., s.t.)	11,337	19,029	21,239
Canada (ref., s.t.)	29,046	22,295	20,339
Belgium*	14,804		
Finland‡	369		
Germany, West	8,815		
Norway	1,495		
Sweden	908	2,332	1,820
U. K. (l.t.)	6,067	4,241	3,726
Belgian Congo††	21,094		
No. Rhodesia (blister & ref., l.t.)†	59,719	37,709	53,118

† British Bureau of Non-Ferrous Metal Statistics.
†† Copper wire bars and ingot bars 99% and copper ingots 97%.
‡ Includes old.
* Includes alloys.

Canada's Nickel Exports

(Dominion Bureau of Statistics)

(Refined, in oxide, matte, etc.)

(In Tons)

	1957	1958	1959	1960
Jan.	14,260	14,233	6,757	21,443
Feb.	9,974	12,157	7,976	14,680
Mar.	14,958	12,316	14,006	19,072
Apr.	18,671	20,962	14,213	13,892
May	19,351	20,574	16,142	.....
June	14,539	16,144	15,901	.....
July	14,181	14,055	11,985	.....
Aug.	14,966	13,012	13,664	.....
Sept.	14,160	14,371	19,143	.....
Oct.	13,370	8,335	.....	.....
Nov.	16,620	3,001	.....	.....
Dec.	14,606	5,060	.....	.....
Year	178,656	154,220	.....	.....

French Zinc Imports

(A. B. M. S.)

(In metric tons)

	1960		
	Mar.	Apr.	May
Ore (gross weight)	72,085	27,663	18,296
Mexico	357	...	...
Peru	1,129	...	...
Belgium	1,310	567	...
Bulgaria	2 203	702	...
Greece	6,091	3,657	4,390
Italy	9,442	6,020	1,648
Norway	1,551	2,114	...
Spain	17,981	5,474	903
Yugoslavia	1,331	3,100	...
Algeria	13,543	1,500	5,165
Morocco	12,285	4,529	4,098
Tunisia	4,700	...	2,092
Burma	162	...	...
Slabs, bars, blocks, etc.	2,116	2,744	2,630
Belgium	1,562	1,819	1,935
Germany (W.)	44	...	129
Italy	...	102	51
Netherlands	500	308	...
Norway	...	515	500
Algeria	10	...	15

French Metal Exports

(A. B. M. S.)

(In metric tons)

	1960		
	Mar.	Apr.	May
LEAD			
Ore (gross Weight)	1,785	1,944	603
Pig lead	781	44	542
Sweden	13	...	...
Switzerland	760	...	252
Egypt	...	...	278
Other countries	8	44	12
Antimonial lead	93	97	108
COPPER			
Crude copper for refining (blister, black and cement)	715	653	708
ZINC			
Slabs, bars, blocks, etc.	521	548	371

U. K. Copper Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

	1960		
	Feb.	Mar.	Apr.
(Gross Weight)			
Copper and copper alloys	40,076	43,927	43,110
U. of S. Africa	175	50	50
Rhodesia-Nyasaland	16,081	21,881	15,222
Canada	9,264	7,051	11,158
Belgium	181	104	102
Germany (W.)	33	436	42
Norway	51	200	200
United States	988	4,777	4,298
Chile	12,854	8,865	11,249
Peru	175	...	100
Belgian Congo	...	250	500
Other countries	274	313	189
Of which:			
Electrolytic	25,953	31,491	29,931
Other refined	6,024	4,600	3,625
Blister or wrought	7,775	7,397	9,015
Wrought and alloys	324	439	539
Total	40,076	43,927	43,110

Nonferrous Castings

MONTHLY SHIPMENTS, BY TYPE OF METAL
(Bureau of Census — Thousands of Pounds)

	Aluminum	Copper	Magnesium	Zinc	Lead Die
1954 Total	607,764	834,557	25,572	474,741	18,396
1955 Total	833,058	1,011,748	27,892	781,254	21,045
1956 Total	801,136	966,473	36,168	88,069	20,734
1957 Total	751,856	875,389	30,322	663,330	23,791
1958					
Total	596,816	739,915	27,228	508,297	18,920
1959					
January	62,927	66,874	2,151	53,347	1,571
February	62,486	69,589	2,162	48,779	1,285
March	73,351	78,641	2,129	57,600	1,765
April	72,976	82,799	2,455	57,325	1,862
May	68,268	78,413	2,370	60,656	2,025
June	66,471	79,730	2,484	56,128	2,007
July	56,911	67,073	2,265	46,756	1,858
August	55,904	68,979	2,243	46,566	1,898
September	66,193	76,045	2,263	58,144	2,218
October	67,499	79,832	2,436	59,214	2,068
November	54,557	70,674	2,023	46,270	1,755
December	64,939	73,558	2,163	60,652	1,346
Total	790,520	892,027	27,144	651,437	21,658
1960					
January	68,247	73,971	2,135	61,357	1,496
February	71,699	71,797	2,075	62,925	1,628
March	72,216	75,908	1,903	60,816	1,994
April	61,797	66,777	1,926	47,553	2,030

Copper Castings Shipments

BY TYPE OF CASTING
(Bureau of Census) (Thousands of Pounds)

	Total	Sand	Permanent Mold	Die	All Other
1952 Total	1,009,910	910,862	63,865	8,259	26,924
1953 Total	990,496	888,369	61,316	10,077	30,734
1954 Total	834,557	751,804	48,849	6,480	27,394
1955 Total	1,011,748	907,852	63,041	8,541	31,408
1956 Total	966,113	866,404	57,522	10,023	32,134
1957 Total	875,389	789,819	44,746	10,776	30,048
1958					
October	74,012	67,564	3,239	790	2,419
November	62,746	57,386	2,604	810	1,946
December	67,905	61,119	3,535	1,059	2,192
Total	739,985	667,255	36,529	10,201	22,681
1959					
January	66,874	59,856	3,572	1,216	2,230
February	66,589	62,593	3,557	1,176	2,263
March	78,641	69,472	4,333	1,361	3,475
April	82,799	73,567	4,640	1,328	3,264
May	78,413	69,351	4,363	1,291	3,408
June	79,730	70,836	4,421	1,175	3,298
July	69,073	61,650	3,869	946	2,608
August	68,979	60,346	4,410	993	3,230
September	76,045	66,517	4,810	1,138	3,580
October	79,832	69,583	5,172	1,169	3,908
November	70,674	61,490	4,893	1,160	3,131
December	73,558	64,579	4,337	1,130	3,512
Total	891,216	790,290	52,377	14,083	36,907
1960					
January	73,971	65,742	3,915	1,371	2,943
February	71,797	63,105	4,146	1,282	3,266
March	75,908	66,517	4,346	1,381	3,664
April	66,777	58,453	4,523	1,162	2,639

Nickel Averages

Electro, cathode sheets, 99.00%, f.o.b. refinery, duty included
(Cents Per Pound)

	1957	1958	1959	1960
Jan.	74.00	74.00	74.00	74.00
Feb.	74.00	74.00	74.00	74.00
Mar.	74.00	74.00	74.00	74.00
Apr.	74.00	74.00	74.00	74.00
May	74.00	74.00	74.00	74.00
June	74.00	74.00	74.00	...
July	74.00	74.00	74.00	...
Aug.	74.00	74.00	74.00	...
Sept.	74.00	74.00	74.00	...
Oct.	74.00	74.00	74.00	...
Nov.	74.00	74.00	74.00	...
Dec.	74.00	74.00	74.00	...
Aver.	**74.00**	**74.00**	**74.00**	...

Platinum Averages

N. Y. MONTHLY QUOTATIONS
(Dollars per Troy Ounce)

	1957	1958	1959	1960
Jan.	101.92	77.85	52.57	80.00
Feb.	98.59	74.82	59.25	83.29
Mar.	93.50	72.096	77.10	83.00
Apr.	93.45	70.72	77.18	83.00
May	92.865	67.34	77.50	83.00
June	92.02	66.18	77.50	83.00
July	90.265	64.35	78.00	...
Aug.	84.426	60.94	78.00	...
Sept.	84.00	59.50	78.00	...
Oct.	84.00	57.327	78.00	...
Nov.	83.80	56.41	78.44	...
Dec.	78.70	53.154	78.50	...
Aver.	**89.79**	**65.07**	**74.17**	...

Spot Straits Tin

(Straits, Open Market, N. Y.)
Monthly Average Prices

	1957	1958	1959	1960
Jan.	101.511	92.94	99.411	99.863
Feb.	101.132	93.915	102.785	101.178
Mar.	99.643	94.452	103.042	100.228
Apr.	99.304	93.988	102.505	99.25
May	93.347	94.512	103.125	99.554
June	98.05	94.708	104.25	101.377
July	96.52	94.898	102.337	...
Aug.	94.261	94.988	102.333	...
Sept.	93.406	94.101	102.44	...
Oct.	91.838	96.523	102.238	...
Nov.	89.236	99.118	101.021	...
Dec.	92.35	98.989	99.176	...
Aver.	**96.301**	**95.177**	**102.055**	...

Prompt Tin Prices

(Straits, Open Market, N. Y.)
Monthly Average Prices
(Cents Per Pound)

	1957	1958	1959	1960
Jan.	101.347	92.653	99.351	99.863
Feb.	100.257	93.763	102.708	100.987
Mar.	99.476	94.363	103.042	100.098
Apr.	99.288	92.988	102.505	99.25
May	98.335	94.512	103.107	99.548
June	98.025	94.619	104.142	101.318
July	96.44	94.892	102.337	...
Aug.	94.159	94.976	102.345	...
Sept.	93.313	94.054	102.435	...
Oct.	91.848	96.455	102.238	...
Nov.	89.236	98.985	100.972	...
Dec.	92.34	98.96	99.176	...
Aver.	**93.672**	**95.069**	**102.03**	...

Quicksilver Averages

N. Y. Monthly Averages
Virgin, Dollars per 76-lb Flask

	1957	1958	1959	1960
Jan.	256.00	224.35	219.50	211.30
Feb.	256.00	229.39	219.50	212.68
Mar.	256.00	232.096	223.57	214.00
Apr.	256.00	233.06	239.52	214.00
May	256.00	229.48	245.86	214.00
June	256.00	229.00	241.64	212.00
July	256.00	230.25	236.74	...
Aug.	252.20	240.27	232.524	...
Sept.	248.58	241.12	225.429	...
Oct.	234.48	235.94	224.548	...
Nov.	228.33	230.05	217.944	...
Dec.	226.50	223.54	215.05	...
Aver.	**248.51**	**230.96**	**228.49**	..

Primary Aluminum Output, Shipments and Stocks

(U. S. Department of Interior)

	Stocks beginning of month short tons	Production short tons	Sold or Used — Short tons	Sold or Used — Value f. o. b. plant	Stocks end of month short tons
1958					
Total	....	1,565,556	1,595,067	.....	.....
1959					
March	183,827	157,189	181,839	82 304,609	159,177
April	159,177	155,213	182,930	90,070,280	131,460
May	131,460	163,857	182,607	89,672,327	112,710
June	112,710	167,323	191,421	93,955,552	88,612
July	88,612	179,194	187,387	91,635,864	80,419
August	80,419	172,816	159,206	77,711,678	94,029
September	94,029	168,206	153,170	74,809,052	109,065
October	109,065	173,742	151,683	73,293,070	131,124
November	131,124	153,665	152,024	74,247,828	132,765
December	132,765	162,996	184,123	89,712,146	111,638
Total	....	1,953,017	1,987,465	.....	.....
1960					
January	111,638	164,023	148,129	$73,424,794	127,352
February	127,532	156,825	167,215	83,087,192	117,142
March	117,142	170,688	172,846	88,761,065	114,984
April	115,140	168,596	144,469	73,561,622	139,267

Aluminum Wrought Products

PRODUCERS' MONTHLY NET SHIPMENTS

(Bureau of Census — Thousands of Pounds)

	Total	Sheet, Plate, Foil, Rod & Bar	Wire & Cable	Extruded Shapes & Tubing	Powder & Paste
1955 Total	2,805,500	1,542,368	365,391	812,311	35,854
1956 Total	2,870,101	1,577,601	398,602	782,398	28,017
1957 Total	2,677,423	1,396,502	399,040	789,430	28,187
1958					
Total	2,624,911	1,441,385	285,355	821,249	25,742
1959					
February	230,733	131,564	21,740	71,364	2,028
March	271,642	161,285	21,940	81,276	2,578
April	293,554	166,942	25,468	93,475	3,178
May	320,786	184,664	28,532	99,308	3,641
June	341,389	195,476	30,156	107,038	3,901
July	373,060	211,850	39,902	111,661	4,708
August	247,833	126,512	29,411	85,380	2,537
September	262,749	140,313	25,843	89,986	2,419
October	287,081	154,669	27,614	97,478	2,697
November	247,260	136,516	20,528	83,594	2,304
December	268,155	152,007	24,210	84,504	2,606
Total	3,397,705	1,894,159	321,824	1,075,373	34,843
1960					
January	250,116	141,060	22,475	78,674	3,370
February	256,017	147,026	22,626	79,268	2,435
March	267,149	152,580	24,682	82,584	2,180
April	247,382	139,762	24,026	76,838	2,227
May	271,887	156,542	25,218	83,800	2,268

Aluminum Castings Shipments

(Bureau of Census)

BY TYPE OF CASTING

(Thousands of Pounds)

	Total	Sand	Permanent Mold	Die	All Other
1954 Total	609,066	155,738	213,968	232,726	6,800
1955 Total	833,058	171,757	298,115	354,804	8,282
1956 Total	801,036	171,763	245,421	376,108	7,736
1957 Total	751,656	144,121	232,326	369,086	...
1958					
Total	596,790	117,421	186,949	292,599	...
1959					
February	62,846	10,627	21,127	31,021	...
March	73,351	12,412	26,964	33,949	...
April	72,976	12,700	26,153	33,992	...
May	68,268	11,979	25,283	30,877	...
June	66,471	12,306	24,927	29,092	...
July	56,911	11,581	20,410	24,786	...
August	55,904	11,130	17,824	26,818	...
September	66,193	12,309	21,506	32,239	...
October	67,499	12,958	21,781	32,640	...
November	54,557	10,813	16,326	27,303	...
December	64,939	12,409	19,902	32,523	...
Total	772,212	142,131	262,179	346,589	...
1960					
January	68,247	11,278	22,368	34,514	...
February	71,699	11,800	23,614	36,177	...
March	72,216	12,934	22,413	36,749	...
April	61,797	12,339	20,957	28,393	...

Virgin Aluminum

Ingot (30 lb.) 99½% Plus, Delivered

Monthly Average Prices

(Cents Per Pound)

	1957	1958	1959	1960
Jan.	27.10	28.10	26.80	28.10
Feb.	27.10	28.10	26.80	28.10
Mar.	27.10	28.10	26.80	28.10
Apr.	27.10	26.10	26.80	28.10
May	27.10	26.10	26.80	28.10
June	27.10	26.10	26.80	28.10
July	27.10	26.10	26.80	....
Aug.	28.10	26.77	26.80	....
Sept.	28.10	26.80	26.80	....
Oct.	28.10	26.80	26.80	....
Nov.	28.10	26.80	26.80	....
Dec.	28.10	26.80	27.361	....
Aver.	27.517	26.889	26.847	....

Magnesium Wrought Products Shipments

(Bureau of Census)

(Thousands of Pounds)

	1957	1958	1959	1960
Jan.	2,130	1,271	1,271	1,535
Feb.	2,522	1,280	1,691	1,724
Mar.	2,388	1,398	1,717	1,966
Apr.	2,511	1,479	2,089	1,790
May	2,230	1,443	1,644	1,989
June	1,881	1,709	1,946	....
July	1,428	1,227	1,681	....
Aug.	1,540	1,823	1,823	....
Sept.	1,501	1,807	1,807	....
Oct.	1,453	1,983	2,220	....
Nov.	1,230	1,662	1,320	....
Dec.	1,102	1,622	1,675	....
Total	21,915	18,702	20,884	....

Cadmium Averages

(Cents Per Pound)

N. Y. Monthly Averages

Cents per lb. in ton lots

	1957	1958	1959	1960
Jan.	170.00	155.00	145.00	148.50
Feb.	170.00	155.00	145.00	150.00
Mar.	170.00	155.00	145.00	150.00
Apr.	170.00	155.00	120.00	150.00
May	170.00	155.00	120.00	150.00
June	170.00	155.00	120.00	150.00
July	170.00	155.00	120.00	....
Aug.	170.00	155.00	120.00	....
Sept.	170.00	152.60	120.00	....
Oct.	170.00	145.00	*140.00	....
Nov.	170.00	145.00	140.00	....
Dec.	166.40	145.00	140.00	....
Aver.	169.70	152.30	132.00	....

* As of Oct. 1, 1959, for lots of up to one ton.

Steel Ingot Production

(American Iron and Steel Institute)

Period	Estimated Production — All Companies OPEN HEARTH Net tons	% of capacity	BESSEMER Net tons	% of capacity	ELECTRIC Net tons	% of capacity	TOTAL Net tons	% of capacity	Calculated weekly production, all companies (net tons)
1954 Total ..	80,327,494	73.6	2,548,104	53.2	5,436,054	52.0	88,311,652	71.0	1,693,741
1956 Total ..	102,840,585	91.6	3,227,997	67.4	9,147,567	81.2	115,216,149	89.8	2,203,828
1957 Total ..	101,657,776	87.0	2,475,138	54.9	8,582,082	71.3	112,714,996	84.5	2,161,776
1958									
Total	75,888,392	62.0	1,396,348	34.7	7,972,623	55.4	85,257,363	69.6	1,635,162
1959									
January	8,280,985	77.1	120,005	39.5	729,675	63.7	9,317,385	74.3	2,103,247
February	8,540,000	88.0	129,000	47.0	757,000	73.1	9,603,000	84.8	2,401,000
March	10,216,474	95.1	184,892	60.9	929,784	81.1	11,567,745	92.3	2,611,229
April	9,884,332	95.0	196,000	66.2	964,850	87.0	11,281,920	93.0	2,629,818
May	10,117,968	94.2	200,887	66.1	1,024,401	89.4	11,600,581	92.5	2,618,441
June	9,521,053	91.6	185,794	63.2	941,056	84.8	10,907,634	89.9	2,542,572
July	4,540,182	42.2	66,433	21.9	526,025	45.9	5,227,129	41.7	1,182,608
August	1,171,342	10.9	.....	...	267,935	23.4	1,439,277	11.5	324,893
September ...	1,249,398	12.0	.....	...	285,619	25.8	1,535,017	12.7	358,649
October	1,385,490	12.9	.....	...	319,043	27.8	1,704,533	13.6	384,770
November ...	6,290,659	60.5	92,361	31.4	754,793	68.0	7,267,607	52.9	1,694,081
December ...	10,468,534	92.4	205,666	67.7	1,033,668	90.2	11,989,319	95.6	2,712,516
Total	81,668,997	64.5	1,380,283	38.6	8,532,514	63.2	93,446,132	63.3	1,792,216
1960									
January	10,510,616	97.7	211,132	73.2	1,046,675	85.6	12,049,404	95.5	2,719,956
February	9,713,527	94.0	216,263	80.2	949,588	83.0	11,126,806	94.3	2,687,634
March	10,103,122	93.9	202,812	70.3	952,008	77.9	11,564,683	91.6	2,610,538
April	8,603,306	82.7	105,336	37.7	766,452	64.8	9,777,857	80.1	2,279,221
May	7,844,140	72.9	73,010	25.3	603,817	49.4	8,830,472	70.0	1,993,335
June	6,439,000	61.9	80,000	28.7	560,000	47.3	7,394,000	60.6	1,724,000

Blast Furnace Output

(American Iron and Steel Institute)

	net tons Pig Iron	Ferro-manganese & Spiegel	Total	% Capacity
1951				
Tot. Yr.	70,487,380	745,381	71,232,761	98.3
1952				
Tot. Yr.	61,828,665	629,926	62,158,591	84.2
1953				
Total ..	74,987,721	855,038	75,842,759	95.5
1954				
Total ..	58,119,382	568,735	58,688,117	71.6
1955				
Total ..	77,114,073	868,758	77,800,831	92.7
1956				
Total ..	75,301,134	664,341	75,965,475	88.9
1957				
Total ...	78,557,011	782,660	79,339,671	91.4
1958				
Jan.	4,785,269	69,175	4,854,444	62.8
Feb.	4,016,276	47,953	4,064,229	58.2
Mar.	4,418,778	45,175	4,463,953	57.8
April ..	3,787,907	39,302	3,827,209	51.2
May ...	4,048,328	25,468	4,073,796	52.7
June ...	4,396,285	26,463	4,422,748	59.1
July ...	4,277,515	26,668	4,304,183	55.7
Aug.	4,799,955	31,374	4,831,329	62.1
Sept.	5,041,042	31,348	5,072,390	67.8
Oct.	5,835,995	36,963	5,872,958	76.0
Nov.	5,907,888	39,275	5,946,163	79.5
Dec.	6,025,385	47,505	6,072,890	78.6
Total ..	57,298,644	465,456	57,298,644	63.5
1959				
Jan.	6,260,395	48,572	6,211,823	77.9
Feb.	6,047,398	45,274	6,192,672	85.3
March ..	7,461,760	48,291	7,510,051	93.4
April ..	7,338,372	54,234	7,392,606	95.0
May ...	7,683,759	64,237	7,747,996	96.4
June	7,231,631	58,315	7,289,946	93.7
July	3,550,159	23,391	3,573,550	44.5
Aug.	.....	....	947,779	11.8
Sept.	.....	....	949,103	12.2
Oct.	.....	....	1,017,659	12.7
Nov.	4,199,101	20,172	4,219,273	54.2
Dec.	7,638,359	65,728	7,704,087	95.0
Total ...	60,322,426	452,313	60,774,738	...
1960				
Jan.	7,753,753	76,344	7,830,097	95.5
Feb.	7,342,469	71,533	7,414,002	...
March ..	7,713,696	79,715	7,793,411	95.1
April ...	6,770,229	69,864	6,830,093	86.1
May ...	6,030,992	63,419	6,394,411	78.0
June ...	5,261,171	48,316	5,309,487	66.9

Steel Castings Shipments

(Bureau of Census)

	(Short Tons) Total	For Sale	For Own Use
1951 ...	2,101,604	1,507,413	594,191
1952 ...	1,925,116	1,476,352	448,767
1953 ...	1,829,277	1,290,016	431,330
1954 ..	1,184,096	880,158	303,938
1955 ...	1,530,694	1,166,706	363,988
1956 ...	1,931,987	1,512,290	416,697
1957			
Total ..	1,766,191	1,261,301	406,444
1958			
Mar. ...	106,233	82,195	24,038
Apr. ...	91,464	69,121	22,343
May	87,002	66,086	20,916
June ...	92,681	71,624	21,237
July ...	68,802	48,618	10,184
Aug. ...	80,886	59,816	21,070
Sept. ...	85,277	64,586	20,691
Oct. ...	95,389	73,367	22,022
Nov. ...	85,267	65,788	19,479
Dec. ...	103,800	81,360	22,440
Total ..	1,114,939	859,125	255,814
1959			
Jan. ...	105,392	82,693	22,709
Feb. ...	110,280	86,013	24,267
Mar. ..	131,317	103,848	27,469
Apr. ...	134,344	104,890	29,454
May ...	135,359	105,804	29,555
June ...	143,624	111,725	31,899
July ...	106,790	83,541	23,249
Aug. ...	98,014	79,188	18,826
Sept. ...	99,731	79,963	19,768
Oct. ...	105,570	84,850	20,720
Nov. ...	109,460	86,026	23,434
Dec. ...	103,800	81,360	23,440
Total ..	1,023,861	919,181	294,430
1960			
Jan. ...	122,565	94,052	28,513
Feb. ...	129,259	97,927	31,332
Mar. ...	143,708	109,688	34,020
Apr. ...	127,219	96,557	30,662

Galvanized Sheet Shipments

(American Iron & Steel Institute)

(Net Tons)

	1957	1958	1959	1960
Jan.	235,902	186,649	279,244	323,073
Feb.	205,048	167,627	281,637	289,583
Mar.	206,836	195,885	311,961	329,395
Apr.	198,585	206,368	328,759	295,627
May	206,657	231,318	317,059	288,162
June	239,037	277,180	350,333	
July	167,247	239,883	180,787	
Aug.	186,790	253,263	N.A.	
Sept.	183,952	258,723	N.A.	
Oct.	212,886	290,157	N.A.	
Nov.	190,380	253,909	196,644	
Dec.	159,363	266,472	301,911	
Total	2,392,637	2,828,848	2,772,835	

N.A.—Not available.

SHIPMENTS OF TIN-TERNEPLATE

(American Iron & Steel Institute)

(Net Tons)

	—Hot Dipped— 1959	1960	—Electrolytic— 1959	1960
Jan.	30,304	32,525	417,210	493,828
Feb.	24,602	29,385	442,625	443,619
Mar.	46,705	38,131	597,408	538,166
Apr.	54,906	37,106	689,998	470,716
May	64,110	37,705	689,064	473,083
June	62,965	....	673,819	....
July	36,381	....	244,719	....
Aug.	N.A.	....	N.A.	....
Sept.	N.A.	....	N.A.	....
Oct.	N.A.	....	N.A.	....
Nov.	21,782	....	296,641	....
Dec.	31,487	....	464,080	....
Total	412,123	....	4,858,511	....

N.A.—Not available.

Steel Ingot Operations

(Precentage of Capacity as Reported by American Iron & Steel Institute)

Week Beginning	1957	1958	1959	1960
Jan. 4...	98.4	56.1	76.2	95.3
Jan. 11...	96.4	57.0	73.6	95.7
Jan. 18...	96.6	55.5	74.6	95.4
Jan. 25...	97.6	54.0	72.6	94.2
Feb. 1...	97.1	54.0	76.9	94.3
Feb. 8...	97.7	53.5	83.8	95.7
Feb. 15...	97.8	50.9	83.7	93.8
Feb. 22...	96.0	54.6	88.5	94.4
Feb. 29...	97.1	53.1	90.3	92.8
Mar. 7...	93.8	52.4	92.0	93.1
Mar. 14...	93.5	52.5	92.9	91.5
Mar. 21...	92.4	50.6	92.9	91.1
Mar. 28...	90.6	48.6	93.2	88.7
Apr. 4...	90.3	48.5	93.3	84.8
Apr. 11...	90.4	46.8	93.8	78.1
Apr. 18...	88.7	47.9	93.5	78.5
Apr. 25...	87.0	47.8	94.2	77.6
May 2...	86.7	49.4	92.0	75.0
May 9...	84.2	52.3	92.9	73.8
May 16...	86.4	56.4	93.4	71.3
May 23...	88.0	58.1	93.6	65.6
May 30...	87.5	62.5	93.7	60.6
June 6...	86.5	84.0	92.0	61.6
June 13...	85.2	64.9	92.5	62.3
June 20...	84.0	61.7	87.8	61.0
June 27...	78.5	51.0	78.2	53.0
July 4...	78.7	53.4	79.5	42.2
July 11...	79.3	54.9	38.7	51.8
July 18...	79.4	57.3	12.9	54.4
July 25...	79.4	57.8	12.2	53.8
Aug. 1...	79.8	58.8	11.2	...
Aug. 8...	80.6	60.5	11.8	...
Aug. 15...	82.1	62.6	11.3	...
Aug. 22...	82.2	63.5	11.7	...
Aug. 29...	81.0	61.7	11.5	...
Sept. 5...	81.9	65.9	11.6	...
Sept. 12...	82.1	65.6	12.6	...
Sept. 19...	82.2	67.3	12.8	...
Sept. 26...	82.6	70.4	12.8	...
Oct. 3...	82.8	71.6	12.8	...
Oct. 10...	80.9	74.2	13.0	...
Oct. 17...	80.2	74.8	13.1	...
Oct. 24...	79.7	75.0	13.1	...
Oct. 31...	78.0	74.5	13.0	...
Nov. 7...	77.7	74.5	45.6	...
Nov. 14...	76.0	74.1	78.9	...
Nov. 21...	72.1	73.7	89.7	...
Nov. 28...	71.5	73.5	93.6	...
Dec. 5...	69.2	73.5	96.5	...
Dec. 12...	67.7	74.5	96.3	...
Dec. 19...	53.7	74.5	94.9	...
Dec. 26...	59.0	73.6	96.3	...

INTERNATIONAL
MINERALS and METALS CORPORATION

11 BROADWAY, NEW YORK 4, N. Y.

COPPER ZINC

Buyers

ORES • CONCENTRATES
SCRAP • RESIDUES

For: **PHELPS DODGE PLANTS IN**
Laurel Hill, L. I., N. Y.
Douglas, Arizona
El Paso, Texas

For: **NATIONAL ZINC CO.**
(Subsidiary)
Bartlesville, Oklahoma

Sellers

COPPER (Electrolytic) • ZINC (All Grades)
CADMIUM • MERCURY

We'll get out of it what we put in!

Get Your Scrap Metal Out

CONSUMERS OF

NICKEL – COPPER – BEARING MATERIAL
NICKEL PLATERS – RACKS AND BASKETS
CLEAN AND OFF-GRADES OF MONEL METAL

I. Schumann & Company

4391 Bradley Road
P. O. Box 2219 – SHadyside 1-7800
Cleveland 9, Ohio

copper

Electrolytic NEC* CCC*

zinc

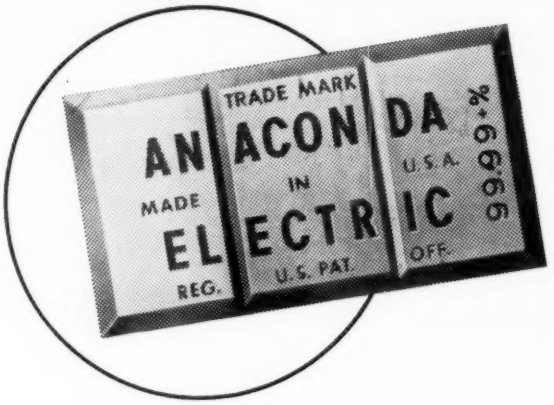
99.99+% Electric*
High Grade Electrolytic

lead

Common Desilverized ILR*

aluminum

Pig • Ingot



FERROMANGANESE STANDARD GRADE

CADMIUM • SILVER • BISMUTH • INDIUM

Arsenic • Palladium • Platinum • Selenium • Tellurium

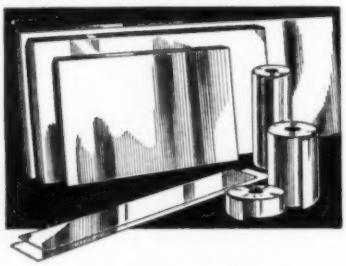
ANACONDA
from mine to consumer

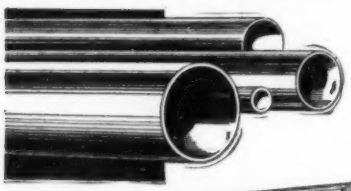
Anaconda Sales Company

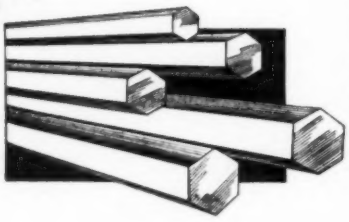
25 Broadway, New York 4, New York
Subsidiary of The Anaconda Company

*Reg. U. S. Pat. Off.

60211







ANACONDA®

COPPER • BRASS • BRONZE

Sheet, Strip, Rod, Wire, Copper Tubes and Fittings, 85 Red Brass Pipe, Free Cutting Rods, Die Pressed Forgings and Extrusions

made by

THE AMERICAN BRASS COMPANY • WATERBURY 20, CONN.

Subsidiary of The Anaconda Company

DISTRICT SALES OFFICES:

Ansonia, Conn.
Atlanta 8, Ga.
Buffalo 5, N. Y.
Cambridge 42, Mass.
Cedar Rapids, Iowa
Charlotte 2, N. C.
*Chicago 39, Ill.
Cincinnati 2, Ohio
*Cleveland 11, Ohio
Columbus 15, Ohio
*Dallas 6, Texas
Denver 16, Colo.
Detroit 31, Mich.
Houston 2, Texas
Kansas City 5, Mo.
Kenosha, Wis.
Los Angeles 17, Calif.
*Milwaukee 4, Wis.
Minneapolis 2, Minn.
Newark 2, N. J.
New York 16, N. Y.
*Philadelphia 22, Pa.
Pittsburgh 19, Pa.
*Providence 3, R. I.
Rochester 4, N. Y.
St. Louis 3, Mo.
San Francisco 4, Calif.
Seattle 1, Wash.
Syracuse 2, N. Y.
Torrington, Conn.
Washington 5, D. C.
Waterbury 20, Conn.

General Offices:
Waterbury 20, Conn.

In Canada: Anaconda American Brass Limited *General Offices:*
New Toronto, Ontario

Montreal Office:
939 Dominion Square Building

Vancouver Office:
1030 West Georgia St.

*Warehouses

58294